

October 8, 1956

Is Nuclear Power Practicable? . . . p. 20

# RAILWAY AGE

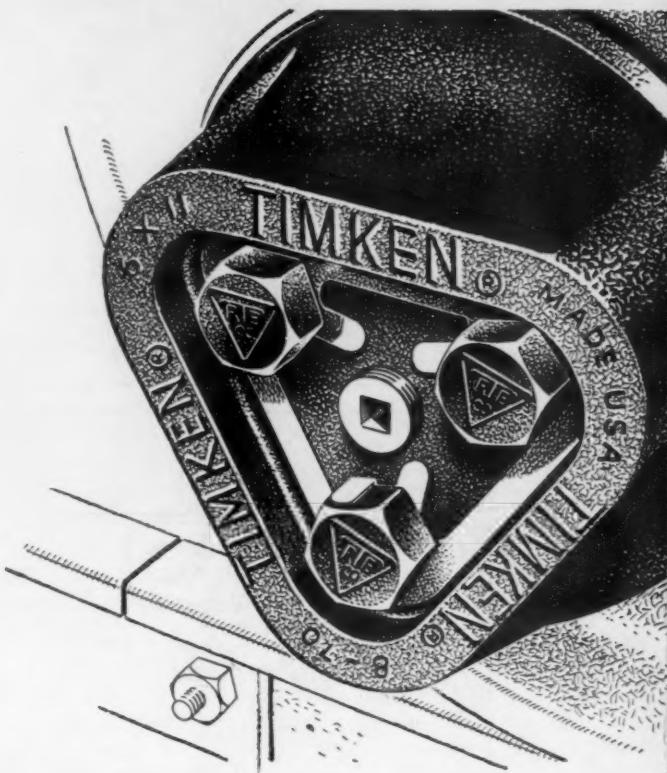
THE INDUSTRY'S WEEKLY NEWSMAGAZINE

THERE'S NO CURE WITH A "CRUTCH"



## You can count on Timken® bearings to Cure the Hot Box problem

*They pay for themselves over and over and over  
in operating and maintenance savings*



**Y**OU can't count on costly "crutches"—devices attempting to improve friction bearing performance—to cure the hot box problem. The only cure you can count on is Timken® bearings. They remove the cause of hot boxes—the friction bearing itself.

In addition to curing the

**EXTRA** hot box problem, Timken **DIVIDENDS** bearings bring *extra* savings. They wipe out the frequent inspection and lubrication that friction bearings require—even with "crutches"—to keep operating. Timken bearings cut terminal bearing inspection time 90%, lubricant cost as much as 95%. In fact, the new Timken heavy-duty type AP (All-Purpose) bearing assembly will go three years without the addition of lubricant. When all railroads go "Roller Freight", they'll save an estimated \$224 million a year, earn about a 22% net annual return on the investment.

Timken bearings do away with the hot box problem because they *roll* the load instead of *sliding* it. There's none of the metal-to-metal sliding friction you get with

**THE TAPER'S** friction bearings. And **THE ANSWER** because of their tapered design, Timken bearings are the only ones you can count on to cure the hot box problem *and* bring costs down to lowest level. There's no lateral movement—the taper prevents it. Result: there's no pumping action, less lubricant is needed. There's no scuffing or skewing, bearings wear longer. And we make our own bearing steel, to be sure you get the finest, toughest steel available. No other American bearing manufacturer takes this extra quality control step.

When you figure in the extra cost of buying and maintaining "crutches" that never cure, the difference in price between fric-

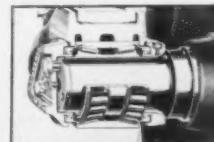
tion and roller bearings is less today than ever. And by using a planned conversion program, a major American railroad shows how

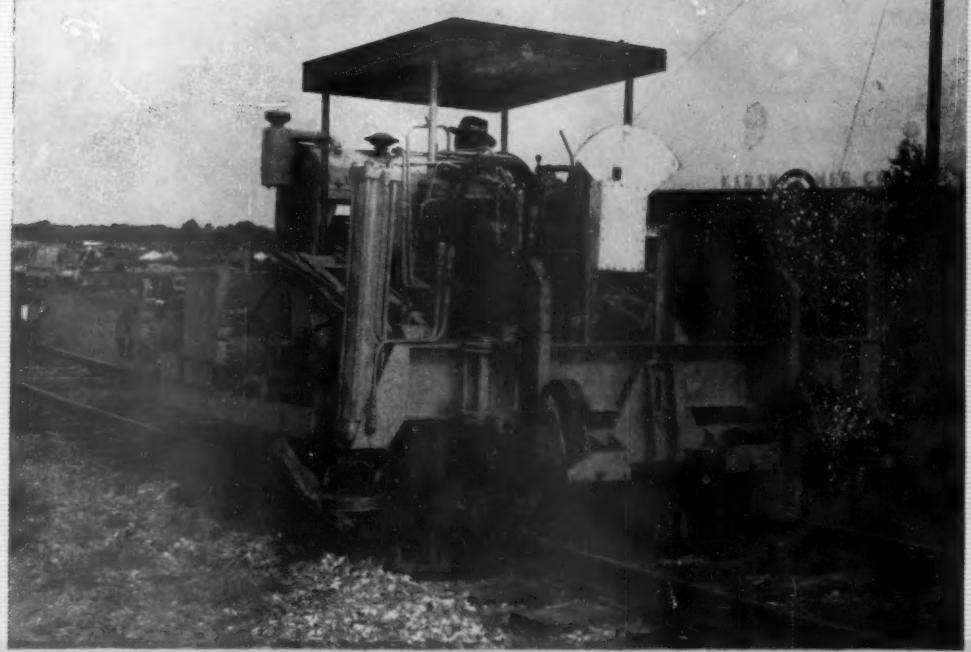
### CONVERSION PLAN THAT SAVES

to reduce costs even further. Whenever a freight car of this road comes into its shops for major repairs, it is converted to roller bearings. This method makes it easier to maintain a steady shop and labor schedule, keeps bearing installation costs to a minimum. And it makes it easier to spread the conversion cost over a period of years.

Why struggle along with costly "crutches"? You can count on Timken bearings to *cure* the hot box problem—and cut operating and maintenance costs to a minimum. The Timken Roller Bearing Company, Canton 6, Ohio. Canadian plant: St. Thomas, Ontario. Cable: "TIMROSCO".

7 out of 10 roller bearing freight cars roll  
on **TIMKEN** tapered roller bearings





## the KERSHAW SPOT TAMPER

Kershaw Manufacturing Company proudly announces the development of the Kershaw Spot Tamper, a compact, speedy machine which combines the work load of a Jack-All and a multiple tamper. Check these important features found ONLY on the Kershaw Spot Tamper:

- ★ Equipped with hydraulic jacks to permit the raising of track and the catching off of the tie in one simple operation.
- ★ Completely hydraulically operated using both the hydraulic and vibratory principles.
- ★ Provided with four independent tamping heads which may be operated singularly, in pairs or all four at the same time.
- ★ Tamping bars actually go under tie and are only two inches apart during tamping operation.
- ★ Tamps through switches.
- ★ Provides raise from 0 to 8 inches.
- ★ Priced reasonably to fit any railroad budget.

**Now . . . more than ever . . .**  
*Recognize This Symbol  
of Leadership . . .*

**KERSHAW**  
MANUFACTURING CO. INC.  
MONTGOMERY ALABAMA  
U.S.A.



## This winter economize with Winter King Switch Heaters

Now is a good time to plan for economical switch care during the snowy days ahead. And Bethlehem's Winter King Switch Heater can fit right in with your plans.

The Winter King is first of all a simple, compact and easy-to-handle unit that fits between the ties and under the rail base. Its dependable orange flame is easily adjusted for height, and the fuel chamber is easily refilled while the unit is in operation. The 1½-gal capacity will keep the heater burning continuously for from nine to fifteen hours.

In addition to low first cost, the Winter King offers economy through almost negligible maintenance requirements. Being self-contained, they are practical for any location. One man can care for 100 heaters, if they aren't too widely scattered.

For best results, Winter Kings should be set out three to a side for 10-ft switches, four for 16½-ft, and proportionately more for longer ones. Center the opening between stock rail and point and adjust the flame by increasing or decreasing the opening in the top of the unit.

Hundreds of thousands of Winter Kings will be pitting their friendly flames against snow and ice this winter. A Bethlehem representative will be glad to give you full details on the Winter King story. He can be reached through our nearest sales office or at our general offices in Bethlehem, Pa.

BETHLEHEM STEEL COMPANY, BETHLEHEM, PA.

On the Pacific Coast Bethlehem products are sold by  
Bethlehem Pacific Coast Steel Corporation  
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**BETHLEHEM STEEL**





KANSAS CITY SOUTHERN

# Speeds repairs, cuts costs in this yard!



Trackmobile moving box car onto transfer table.

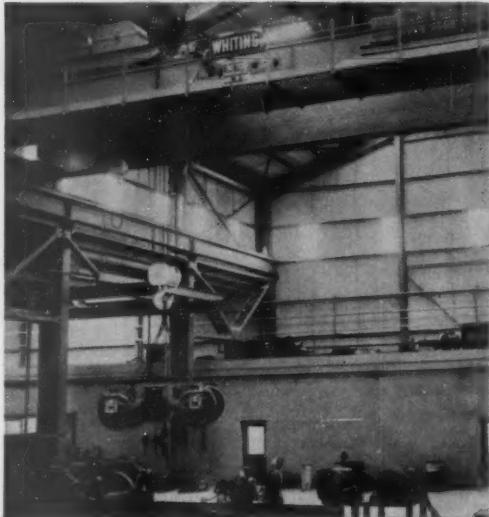
The new Deramus Yard of the Kansas City Southern Railway is as up-to-date as modern equipment can make it. Efficient shop layout speeds repairs of Diesels and cars... returns them to the road with a minimum of down-time. Many vital functions are performed by Whiting equipment such as...

**WHITING TRANSFER TABLE**—with 35-ton capacity and 60-foot span. It is located at one end of the car repair shop to move cars from the yard's five storage tracks to any desired shop track.

**WHITING 2TMA TRACKMOBILE**—moves bad order cars to transfer table and repaired cars out of the shop. Trackmobile gets around in the yard fast by changing from rubber-tired road wheels to steel rail wheels in less than a minute.

**WHITING 30-TON, 60-FOOT SPAN TRAVELING OVERHEAD ELECTRIC CRANE**—speeds handling of heavy parts in the Diesel repair shop. It has a 5-ton auxiliary hoist for lighter loads. (See Photo)

**WHITING 30-TON, 120-FOOT SPAN OVERHEAD TRAVELING ELECTRIC CRANE**—set-up to service all five tracks in the car repair shop. Has enough "muscle" to lift whole cars... and a 5-ton auxiliary hoist for faster handling of lighter loads.



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15603 Lathrop Avenue Harvey, Illinois



**READ THE DETAILED STORY OF THE DERAMUS YARD**  
The "cover story" of the WHITING LIMITED'S spring issue tells all about this new \$8½ million yard. Write for your copy.

#### ALSO YOURS FOR THE ASKING!

**TRACKMOBILE** Bulletin T-115—Features and advantages that cut car handling cost. Illustrated with many photos.  
**WHITING CRANE** Bulletin No. 80—complete information on the 14 outstanding Whiting Crane features.

# RAILWAY AGE

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# Workbook of the Railways

Vol. 141, No. 16  
October 8, 1956

## CONTENTS and Week at a Glance

### RRs want a better rate of return . . .

. . . and their current petition for a general freight-rate increase of 15%—from which several important lines have dissociated themselves—departs from recent general rate pleas which sought principally to offset increasing costs. If the rate of return is not improved, they say, railroads “will be unable to attract capital on reasonable terms . . . and they will continue to fall back and lose place in the national economy.” . . . p.7

### Net income of Class I railroads . . .

. . . In this year's first eight months totaled \$500 million, a drop of \$49 million below that reported for the comparable 1955. Rate of return for the twelve months ended with August averaged 3.99%, compared with 4.15% for the twelve months ended with August 1955. . . . p.8

### FORUM: How to advertise . . .

. . . is a problem that hasn't been reduced to a formula. For effective railroad public relations there is danger in being too general—in painting too rosy a picture—and there is danger in being too narrow—which usually means too late. There are some basic advertising principles that work better in steering true through stormy waters. . . . p.19

### Is nuclear power practicable . . .

. . . for locomotives? Theoretically yes, say the scientists, and they are full of interesting ideas for converting theory into practice. . . . p.20

### Reclaiming old ballast . . .

. . . isn't any unheard-of operation, but the PRR is doing it wholesale where some 200 miles of excess trackage is coming up, with imposing dollar savings. . . . p.22

### More signaling . . .

. . . and associated equipment, geared to the needs of today's railroads—that's the AAR Signal Section's prescription for delays, damage, and excessive man-hour charges. . . . p.24



# WESTINGHOUSE 6-SL...

the brake that provides for every  
yard switching requirement

The 6-SL Brake Equipment is designed specifically for the switcher and provides all the basic functions that enable a modern yard switcher to perform with maximum availability.

Westinghouse Air Brake  
COMPANY

AIR BRAKE DIVISION  WILMERDING, PENNA.



**Current Statistics**

Operating revenues, eight months	
1956 .....	\$6,954,232,982
1955 .....	6,590,067,867
Operating expenses, eight months	
1956 .....	\$5,374,619,154
1955 .....	4,968,039,671
Taxes eight months	
1956 .....	\$731,401,365
1955 .....	719,134,174
Net railway operating income, eight months	
1956 .....	\$675,628,799
1955 .....	732,614,139
Net income, estimated, eight months	
1956 .....	\$530,000,000
1955 .....	579,000,000
Average price 20 railroad stocks	
October 2, 1956 .....	93.61
October 4, 1955 .....	92.88
Carloadings revenue freight	
Thirty-eight weeks, 1956 ..	27,346,453
Thirty-eight weeks, 1955 ..	27,111,837
Average daily freight car surplus	
Wk. ended Sept. 29, 1956 ..	3,747
Wk. ended Oct. 1955 .....	4,398
Average daily freight car shortage	
Wk. ended Sept. 29, 1956 ..	18,951
Wk. ended Oct. 1, 1955 .....	18,873
Freight cars on order	
September 1, 1956 .....	122,870
September 1, 1955 .....	52,803
Freight cars delivered	
Eight months, 1956 .....	43,897
Eight months, 1955 .....	22,783
Average number railroad employees	
Mid-August 1956 .....	1,036,854
Mid-August 1955 .....	1,096,705

RAILWAY AGE IS A MEMBER OF ASSOCIATED BUSINESS PUBLICATIONS (A.B.P.) AND AUDIT BUREAU OF CIRCULATION (A. B. C.) AND IS INDEXED BY THE INDUSTRIAL ARTS INDEX, THE ENGINEERING INDEX SERVICE AND THE PUBLIC AFFAIRS INFORMATION SERVICE. RAILWAY AGE, ESTABLISHED IN 1856, INCORPORATES THE RAILWAY REVIEW, THE RAILROAD GAZETTE, AND THE RAILWAY AGE GAZETTE. NAME REGISTERED IN U. S. PATENT OFFICE AND TRADE MARK OFFICE IN CANADA.

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**Week at a Glance** CONTINUED**Car line tests containers . . .**

. . . for handling meat under refrigeration, and first results are promising. . . . p.26

**B R I E F S****Ships to carry export coal . . .**

. . . will be available to American Coal Shipping, Inc., which was organized recently by coal-hauling railroads, the coal industry, and the miners' union. The Federal Maritime Board last week authorized charter of 30 Liberty ships to the company which has announced plans to "promote the export coal trade on the broadest possible basis."

**ICC hopes to reflect changing times . . .**

. . . according to its newest member, Commissioner Donald P. McPherson, Jr. He said recently there will be "changes emerging" as commission thinking is influenced by its new members, and he hopes the changes will promote closer understanding between the commission and the transportation industry.

**Allowance paid by railroads . . .**

. . . for use of privately owned tank cars will be increased from 3 cents per mile to 4 cents on November 1. This was decided by letter ballot of interested railroads, the increase having been recommended by the General Committee of the AAR's Operating-Transportation Division.

**It's cheaper to transport rice in bulk . . .**

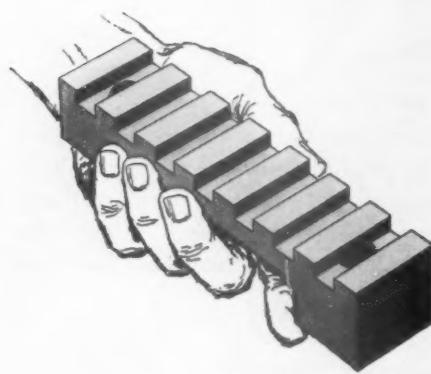
. . . than in sacks, according to a marketing research report from the U.S. Department of Agriculture. The study covered handling and storage of rough rice, and it compared the cost per car of three handling methods as follows: Sacked in box cars, \$30; bulk in box cars, \$7.62; bulk in covered hopper cars, \$5.20.

**Motor vehicle registrations . . .**

. . . are expected to exceed  $65\frac{1}{4}$  million this year. The Bureau of Public Roads estimates that they will reach 65,275,000, including 54,300,000 passenger cars and 10,975,000 trucks, increases, respectively, of 4.1% and 3.7% above 1955. The bureau's longer-range estimate is that registrations will reach 81 million by 1965.

# How R-S JOURNAL STOPS will further Reduce Solid Bearing Operating Costs

## and pay for themselves in less than 3 years!



*Tests have proved that this new device will greatly improve bearing performance and journal lubrication, will at least double bearing life, reduce wheel flange wear and make other significant savings in freight car operation.*

**S**TABILIZE the solid bearing assembly and you approach the maximum in bearing performance. You do just that with R-S Journal Stops. Best of all, they pay for themselves in less than 3 years. Here's how:

First, you reduce routine yard servicing and oiling requirements. Packing seldom needs adjustment, and you don't need oil so often either. (Other lubricators, pad or mechanical, will benefit, too). You cut car oilers' time in half, and inspectors' time by as much as 25%. When enough cars are Journal Stop equipped that could mean savings close to \$18.00 per car per year.\*

Second, all indications point to 3-year periods between periodic attention as required by Rule 66. That would cut current costs in half — save as much as \$6.00 per car per year.

Third, and conservatively, you'll reduce road repair costs to a third of what they now are — possibly a great

deal more. That means minimum savings of \$6.00 per car per year.

Fourth, you'll cut bearing consumption in half — use less than 1½ bearings per car per year. In annual savings that will mean about \$4.00 per car.

The above four items alone represent potential annual savings of \$34.00 per car. Add to these the tremendous savings due to reduced wheel flange wear and a 3-year recovery estimate is probably conservative.

One private car company whose total savings are determined largely by billings that don't cover servicing costs, has already estimated recovery of total installation costs in less than 3 years. Operating roads will save even more. Write us today for full information. Magnus Metal Corporation, 111 Broadway, New York 6; or 80 E. Jackson Blvd., Chicago 4.

\*These and other estimated savings are based on unbiased studies of AAR solid journal bearing operating costs.



Unretouched photo of the RS Journal Stop installation with conventional waste packing. Other lubricators are similarly "contained."

**MAGNUS**  
**Solid Bearings**

MAGNUS METAL CORPORATION

Subsidiary of NATIONAL LEAD COMPANY



## RRs Want Better Rate of Return

Petition for freight-rate increase filed by eastern and western railroads also points up fact that some important lines are not among petitioners—ICC docket case as Ex Parte 206 and issues rules of procedure

Filing by eastern and western railroads of their petition for a general increase of 15% in freight rates pointed up the fact that such important lines as the Lackawanna, Frisco, Illinois Central, Gulf, Mobile & Ohio and Virginian were not among the petitioners.

It also emphasized how the petitioning carriers are seeking to improve their rates of return—a departure from recent general rate pleas which sought principally to offset increasing costs.

**Ex Parte 206**—The petition, anticipated by the announcement of September 18 (Railway Age, Sept. 24, p. 10), was filed with the Interstate Commerce Commission on September 27. The commission immediately docketed it as Ex Parte 206 and on October 1 issued an order instituting the investigation sought.

Although southern railroads declined to join in the petition at this

time, its listing of petitioners erroneously included several short-line roads in Southern Freight Association territory. An amended petition removing such roads from the list of petitioners was filed last week.

**DL&W Position**—The Lackawanna's refusal to go along with the rate increase petition, it told Railway Age, was based upon two considerations:

(1) The road's management believes that tested means are available for ascertaining, commodity by commodity and movement by movement, exactly what traffic is vulnerable to competition and what traffic is not; and that railroad rate increases should be made to a greater degree in the light of such knowledge—with less reliance on the "across-the-board" method. The Lackawanna also believes that rate adjustments can be made, in the light of obtainable information, on specific move-

ments, which run less risk of diverting traffic to competing methods of transportation.

(2) DL&W management is particularly opposed to increasing piggyback rates ("Plan 2"). Such rates were made exactly equal to those of competing trucks—and the road's experience with the last rate increase was that an increase in piggyback rates, regardless of the rate level of competing trucks, caused a serious disturbance to the upward trend in this increasingly popular service.

An IC spokesman told this paper that "in the negotiations thus far our company has questioned the amount to be sought, and the timing concerning the filing of such a petition. We feel the need for added revenues under a joint freight rate increase can be determined only after the effect of the demands of the various labor groups for wage increases now being negotiated is known. At such a time we will be better able to plan our position.

"Since the IC serves the eastern, western and southern territories we have been reluctant to join any group to seek any increase which would disrupt our rate pattern."

GM&O President F. M. Hicks said his road declined to join in the petition "because we question the timing of the application." James E. Gilliland, traffic vice-president of the Frisco, said: "Our railroad is located in western territory, also in southern territory, and competition between the two territories is such that if any major group of carriers doesn't go along on increases we are precluded from increasing in one territory and not the other."

**Proposed Increases**—As the September 18 announcement said, the general increase sought is 15% with exceptions and hold-downs. The

### EX PARTE 206'S TIMETABLE SET BY ICC

The Interstate Commerce Commission's investigation in the Ex Parte 206 case will cover the adequacy of the freight rates of "all" railroads in the country, as proposed in the petition filed by eastern and western roads.

That scope for the proceeding was set out in the order of investigation issued by the commission October 1, the second working day after the petition was filed. The order also provided that all evidence, except oral cross-examination, will be submitted in the form of verified statements, and set up due dates as follows:

**October 15**—Evidence of petitioners and other carriers seeking similar relief.

**October 24**—Evidence of persons other than carriers in support of petitioners.

**December 14**—Evidence in opposition to petitioners.

January 4, 1957—Reply statements.

January 15, 1957—Hearing in Washington before Division 2 for the purpose of cross-examining witnesses who have filed verified statements. Requests for opportunity to cross-examine must be given to the commission and to the witness or his attorney "as promptly as circumstances will permit."

January 22, 1957—Oral argument in Washington before the entire commission. Also date for filing memorandum briefs which may be submitted in lieu of, or in addition to, oral argument.

"Rule 21 (e) of the commission's General Rules of Practice allowing 5 days additional time for parties located in the west of the El Paso, Texas-Helena, Montana line will not apply in this proceeding," the order said.

exceptions include coal and coke, the proposed increase there being 5 cents per net ton, except for coal and coke, moving to ports for export, which would get no increase. The exception for coke was to be provided for in an amendment to the original petition which mentioned only coal.

On the pattern of all general rate cases of recent years except Ex Parte 196, the petition asked the commission to investigate the adequacy of freight rates and charges of "all" railroads in the country, and to make "all" roads parties to the proceeding. The commission proceeded on that basis and thus paved the way for hold-out roads to become petitioners at any time.

Specific plea of the petition as now framed, however, is that the commission permit the proposed increases "within, from, to, and via Eastern territory, and within, from, to, and via Western territory."

**The departure** from the offset-increased-cost approach of recent years was decided upon because that has left rates of return "substandard

and inadequate," the petition said. Increases sought in those cases, it added, "have been insufficient to permit the railroads to advance with the rest of the country"; and "those which have been granted have been insufficient even to offset the wage, price and tax increases which they were designed to meet." The petition continued:

"It is necessary to depart from this approach to the railroads' revenue needs. Their rates of return must be substantially improved. Without such improvement they will be unable to attract capital on reasonable terms, unable to improve efficiency and adequacy of service, and unable to maintain their competitive position. Without such improvement the railroads will continue to fall back and lose place in the national economy, to the serious detriment of the public interest."

**Saturation Point** — Citing an ICC pronouncement [in the Ex Parte 175 report of November 14, 1955] that the railroads' need for substantial capital expenditures "is constantly and ever present," the petition

went on to warn that available sources of funds for such purposes are "inadequate." The inability of the industry as a whole to finance by stock issues is noted, and it is stated that the equipment-trust method of financing "is nearing the saturation point."

The latter statement is based on figures showing that annual payments on existing equipment obligations, which payments now total about \$349 million, are approaching the annual equipment depreciation charge, now about \$384 million. "Moreover," the petition added, "interest rates on equipment obligations have more than doubled since the end of World War II."

As to prospective loss of business, the petition said that the proposed increases "will not substantially affect the movement of traffic." It also anticipated that an amended petition seeking additional relief may be filed if operating expenses should rise above present levels—"whether by further increases in the prices of fuel, materials and supplies, or by increased wages."

## 8 Months Net Was Down \$49 Million

It was \$530 million, compared with \$579 million last year—  
August net was off \$3 million

Class I railroads, in the first eight months of this year, had estimated net income, after interest and rentals, of \$530 million, according to the Bureau of Railway Economics of the AAR.

That was a decrease of \$49 million below the \$579 million reported for the first eight months of 1955. The estimated net income for August was

\$87 million, down \$3 million from August 1955's \$90 million.

The eight-months net railway operating income, before interest and rentals, was \$675,628,799, off \$57 million from the comparable figure, \$732,614,139, for the first eight

months of 1955. August's net railway operating income was \$103,590,536, compared with August 1955's \$109,611,044.

Fifteen Class I roads failed to earn interest and rentals in this year's first eight months. The rate of return for the 12 months ended with August averaged 3.99%, compared with 4.15% for previous 12 months.

## Air-Fare Yield Barely More than 1942

Average revenue per passenger-mile of scheduled domestic air lines last year was 5.35 cents, only 1.3% above the 1942 average of 5.28 cents. Meanwhile, the railroad average rose 35.4%—from 1942's 1.92 cents to 1955's 2.6 cents.

This was shown in "Transport Economics," published by the Bureau of Transport Economics and Statistics of the Interstate Commerce Commission. It was also shown that the 1942-1955 increase in average revenue per passenger-mile of Class I intercity bus lines was 24.8%, from 1.65 cents to 2.06 cents.

Rail and air figures given above are overall averages, reflecting yields from all classes of fares. The "air coach" average for 1955 was 4.35 cents, while air lines' "family" fares yielded 4.64 cents.

The railroad average on parlor and sleeping-car business was 3.31 cents, and the Pullman Company got an average of 1.31 cents in addition. The average for rail coach business, excluding commutation, was 2.47 cents. Both the coach and first-class averages were down 3 mills from the comparable 1954 figures.

(Continued on page 10)

RAILWAY

## MARKET OUTLOOK

THIS WEEK

a RAILWAY AGE Workbook Page

**Carloadings Up.**—Loadings of revenue freight in the week ended September 29 totaled 831,438 cars, the Association of American Railroads announced on October 1. This was an increase of 9,183 cars, or 1.1%, compared with the previous week; an increase of 15,903 cars, or 2.0%, compared with the corresponding week last year; and an increase of 109,795 cars, or 15.2%, compared with the equivalent 1954 week.

Loadings of revenue freight for the week ended September 22 totaled 822,255 cars; the summary, compiled by the Car Service Division, AAR, follows:

REVENUE FREIGHT CAR LOADINGS			
For the week ended Saturday, September 22			
District	1956	1955	1954
Eastern	126,881	127,791	111,977
Allegheny	154,741	154,943	124,355
Pocahontas	66,715	61,980	50,370
Southern	134,045	129,541	123,887
Northwestern	141,008	133,777	114,266
Central Western	136,078	133,899	126,162
Southwestern	62,786	61,799	59,348
Total Western Districts	339,872	339,475	299,776
Total All Roads	822,255	813,720	710,215
<b>Commodities:</b>			
Grain and grain products	54,803	56,116	50,551
Livestock	12,734	11,780	12,924
Coke	143,248	134,947	122,417
Coke	12,233	12,979	8,001
Forest Products	47,821	47,632	45,620
Ore	92,206	87,054	53,779
Merchandise I.C.I.	62,686	65,229	64,328
Miscellaneous	396,522	397,995	352,575
September 22	822,255	813,720	710,215
September 15	820,666	817,234	711,228
September 8	679,611	701,992	601,525
September 1	784,366	789,722	688,472
August 25	770,413	787,272	676,698
Cumulative total, 38 weeks	27,346,453	27,111,837	24,553,477

**In Canada.**—Carloadings for the seven-day period ended September 14 totaled 98,037 cars, compared with 80,744 cars for the previous seven-day period, according to the Dominion Bureau of Statistics.

Totals for Canada:	Revenue Cars Loaded	Total Cars Rec'd from Connections
September 14, 1956	98,037	30,696
September 14, 1955	88,666	30,381
Cumulative Totals:		
September 14, 1956	3,107,343	1,228,015
September 14, 1955	2,800,777	1,319,762

## New Equipment

## FREIGHT-TRAIN CARS

► **Low Repair Ratio.**—Class I roads achieved a car-repair ratio of 3.9% on July 1, AAR reports, going under 4.0% goal for first time this year; July 1, 1955, ratio was 6.0%.

	July 1, 1956	July 1, 1955	Change
Ownership*	1,701,649	1,716,932	-15,283
Waiting Repairs	66,908	102,518	-35,610
Repair Ratio	3.9%	6.0%	-2.1%

\*Excludes railroad-owned private refrigerator cars.

► **Chesapeake & Ohio.**—Ordered 2,000 70-ton triple hopper cars, ACF Industries; delivery scheduled to begin in June 1957.

► **Minneapolis & St. Louis.**—Ordered 30 50-ft insulated box cars with compartmentizers, Pacific Car & Foundry; delivery scheduled for second quarter 1957; this order, plus those for 250 hopper cars to be built by ACF Industries and 100 covered hopper cars to be built by Pullman-Standard, completes road's recently announced plan to order 380 cars (Railway Age, June 11, p. 9).

► **Seaboard Air-Line.**—Requested bids for 2400 cars, to cost about \$20 million; order will be largest single car purchase ever made by SAL and is to be placed by end of this month; included will be 900 gondola cars, 700 open-topped hopper cars, 500 cement cars and 300 pulpwood cars; pulpwood cars and 200 of gondola cars will be equipped with roller bearings.

## LOCOMOTIVES

► **1,600 Units Held for Repair July 1.**—Locomotives of all types waiting repairs on July 1 totaled 1,609, out of total Class I road ownership of 30,868 units, AAR reports; diesel ownership was 1,316 above that for same date 1955.

	Owned or Leased		Stored Serviceable		Waiting Shops	
	July 1	1956	July 1	1956	July 1	1955
Diesel (A & B Units)	25,641	24,325	6	35	772	778
Steam (Locomotives)	4,598	7,227	584	1,183	772	1,204
Electric (Units)	629	663	10	29	65	72

► **Boston & Maine.**—Order reported last week for 50 all-purpose 1,750-hp diesel-electric locomotive units was placed with Electro-Motive; delivery scheduled to begin next February, to be completed by November.

## New Facilities

► **Southern.**—Ordered from Union Switch & Signal—Division of Westinghouse Air Brake Company Union-type CY inductive cab signal equipment for diesel cab and wayside service at Inman yard, Atlanta, Ga.; equipment, recently introduced by US&S, is arranged to provide 5-indication, 2-channel operation; six diesel units are to be equipped in addition to wayside control station and office control panel.

(Continued from page 8)

The ICC bureau's report also had a comparison of the revenue per passenger-mile for the various services in terms of the overall rail average

as 100. These figures showed a drop in the air lines' index number from 1942's 275 to 1955's 205.8. The bus lines' index was also down—from 85.9 to 79.2.

## Long-Term Passenger Outlook Not Good

"We cannot pretend that the long-term outlook for passenger travel by rail is good," C. E. Peterson, vice-president, system passenger traffic-public relations of the Southern Pacific, said in a recent issue of the passenger department's publication.

He summarized the SP position on passenger traffic in four points.

- "We will provide trains the public wants and will support by actual use . . . To run trains the public does not use is an economic waste.

- "On the trains we operate we want to get every passenger possible. The more cars and people on the trains the more nearly we can cover

our out-of-pocket costs.

- "We want the trains and services we operate to be the very best possible . . . First class passenger service is an important asset, public relations-wise, and the best advertisement for our whole company.

- "Where we lose passengers who prefer other types of transportation, let us devise ways and means to follow them. That is, let us find other activities which will bring in revenue based on public patronage and tastes. For example, let us make greater use of our stations and other properties through leases of space and other concessions."

sight," he said. "To date, only three of the eight states in which Southern Pacific does business have granted increases for within-the-state traffic corresponding to those approved by the ICC last March. These still pending applications are now nearly a year behind the wage increases which made them necessary."

The time lapse in the most recent freight-rate case was much less than had been experienced before, Mr. Russell added. "The ICC gave realistic recognition to the time lag problem in this proceeding and acted faster than on any of the other four general rate increase applications made by the railroads nationally since World War II."

While some delays are inevitable under the regulatory system, he explained, many are not justified. The ultimate solution, he believes, depends on public recognition of the need to make appropriate and timely pricing adjustments.

## 75% of 1955 Passenger Costs "Solely Related"

More than three-fourths of the operating expenses assigned to railroad passenger service in 1955 were "related solely" to that service. The exact percentage was 75.3, the countrywide average, regional averages having ranged from 70.6% in New England to 80.6% in the Central Eastern region.

The figures were compiled by the ICC's Bureau of Transport Economics and Statistics and published in its "Monthly Comment." They cover Class I line-haul railroads which performed both freight and passenger services in 1955, and they include like percentages for the freight service.

On a country-wide basis the solely-related proportion of total freight expenses was 66.4%, the range having been from 57.9% for the Central Western Region to 76.4% for the Central Eastern Region.

Similar data were shown for 37 large railroads. There the range for solely-related proportions of passenger expenses was from the Norfolk & Western's 60.6% to the Pennsylvania's 84%.

The New York Central and New Haven figures were 80.7% and 71.5% respectively.

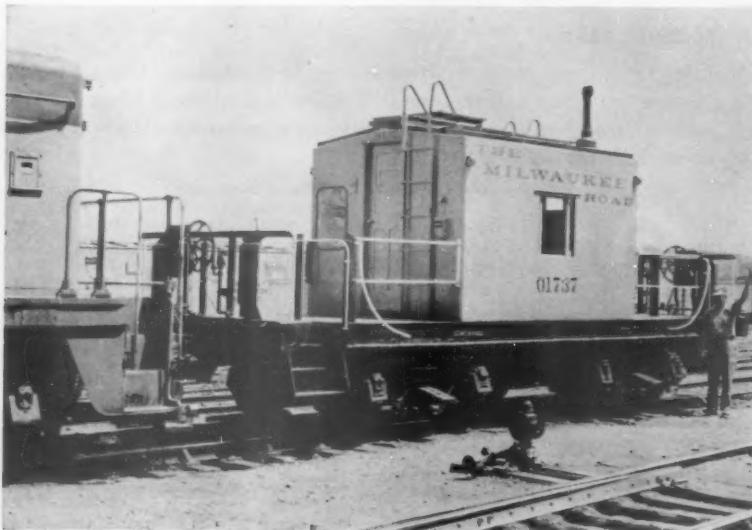
The range for solely-related proportions of freight expenses was

## "Time Lag" Costs the SP Millions

Southern Pacific has lost revenues totaling \$177 million since the end of World War II because of the "time lag" between increasing costs and

increases in rates and fares, D. J. Russell, SP president, said in his quarterly message to shareholders.

"The end of these losses is not in



Milwaukee Builds Terminal Cabooses from Tenders

Sturdiness is the principal advantage of this new Milwaukee caboose rebuilt from an old steam locomotive tender. The sturdiness, provided by the tender's cast steel underframe enables the new caboose to take the buffing end

load when placed next to a locomotive pulling a long string of cars. Cabooses of this type will be used only in the Chicago and Milwaukee terminals. The cabs are 8 ft 8 in. by 12 ft, welded construction, and insulated.

from the Frisco's 49.5% to PRR's 79.9%. As to all but three of the 37 roads (Jersey Central, Erie, and Long Island), the percentage for passenger service exceeded that for freight service.

### Second ICC Check Finds No Gain on Truck Defects

The second nationwide road check conducted by the Bureau of Motor Carriers of the Interstate Commerce Commission turned up vehicle defects or driver deficiencies on 89.9% of the trucks involved in the check.

That compared with a finding of defects and deficiencies on 90.8% of the vehicles checked in the previous check last May (Railway Age, May 28, page 10). As the commission's announcement put it, the change "was so slight as to have no significance."

The present check was made during the week ended August 25. It covered 6,881 vehicles, and it found 3,186 drivers in violation of the rule requiring that they maintain logs of their driving and on-duty time. There were 433 defects in service brakes on power units and 244 such defects on trailers; 1,270 defects in tubing or hoses of the air-brake system were found—564 on power units and 706 on trailers. Defective steering mechanism was found on 302 vehicles.

### Serviceable Fleet Rose 3,578 Cars in August

Class I railroads added 3,587 cars to their serviceable fleets in August.

This was reported by Chairman A. H. Gass of the Car Service Division, Association of American Railroads, in his latest review of "The National Transportation Situation." He also reported that the serviceable fleet, as of September 1, was up 24,890 cars from one year ago.

Mr. Gass' figures also showed that Class I roads and their car-line affiliates put 4,729 new revenue freight cars in service in August, and that they retired 4,309 cars. The bad-order percentage as of September 1 was 4.4, compared with 4.5 on August 1. The increase in the serviceable fleet was due mainly to the trimming of this bad-order backlog from 77,490 to 74,305 cars.

Detention reports for August indi-



### Safety School Goes to CNR Employees

Safety students attend session in Canadian National's touring instruction car with safety instructor D. W. Kyle conducting class. Classroom on wheels, which is fitted out with living quarters

for Mr. Kyle, is traveling in Maritime and eastern Quebec. School car was set up as ideal means to stress job safety to employees in the CNR's Atlantic Region.

cated that 19.7% of the cars placed that month were detained beyond the free time. That compared with 22.9% for July and 20.08% for August 1955. Performance data showed that freight cars produced an average of 1,051 net ton-miles per

serviceable car per day in June, the latest month for which figures were available.

That was below the month of May's 1,063 net ton-miles, but above the average for any previous June since 1948.

### Mackie Urges Spending \$2 Billion

Railroads should spend \$2 billion a year "for capital improvements in order to be fully prepared for future transportation needs of our burgeoning population and dynamic economy" David I. Mackie told the Greater Boston Chamber of Commerce September 27.

Speaking in a panel discussion on the transportation future. Mr. Mackie, chairman of the Eastern Railroad Presidents Conference, said that present expenditures for new equipment and modern facilities are inadequate to meet the demands of the future. He noted an estimate that an average of 75,000 freight cars a year for the next five years will be needed at a cost of \$3 billion—"just about as much as has been spent on new freight cars in the past 10 years."

Mr. Mackie also touched on the "most serious problem" of the "erosion of traffic to contract and pseudo-private carriage." He excepted from his objections legitimate forms of such carriage but assailed "subterfuge 'buy and sell' operators posing as private carriers."

In a previous address at Springfield, Mass., Mr. Mackie said existing inequitable regulation is depriving railroads of traffic they should be hauling.

Addressing the New England Association of the Brotherhood of Locomotive Engineers, he said this draining of traffic "will never be stopped until there is understood the benefits to this nation and its people of better transportation at the lowest possible cost." Only "equality of trans- (Continued on page 48)

## Financial

**New York Central.**—*Acquisition of Affiliates.*—The ICC has dismissed "without prejudice" the applications filed several months ago by this road and Alleghany Corporation for authority to acquire control of the Peoria & Eastern and Beach Creek through ownership of their stock. The applicants requested the dismissals. P&E and BC are now parts of the NYC system. (Railway Age, March 19, page 13.)

## Dividends Declared

**ATCHISON, TOPEKA & SANTA FE.**—new common, 25¢, initial quarter, payable December 8 to holders of record October 26.

**ATLANTIC COAST LINE.**—5% non-cumulative preferred, \$2.50, semiannual, payable November 10 to holders of record October 25.

**NORFOLK & WESTERN.**—4% adjusted preferred, 25¢, quarterly, payable November 9 to holders of record October 18.

**READING.**—50¢, quarterly, payable November 8 to holders of record October 11.

**RICHMOND, FREDERICKSBURG & POTOMAC.**—common, \$1, quarterly; dividend obligations, \$1, quarterly; 6% guaranteed, \$1, extra; 7% guaranteed, \$1, extra; all payable October 4 to holders of record September 24.

**WABASH.**—\$1, payable September 27 to holders of record September 21.

### *there's so much to choose from at Hotel Cleveland!*

What's your pleasure? Fabulous roast beef in Cleveland's first specialty restaurant The Rib Room. Dancing to a famous orchestra in the smart Bronze Room. Relaxing over a drink in the stag Men's Bar. You'll find something to suit every taste and mood at Hotel Cleveland.

And you're in the very heart of town, close to business, shopping and theaters... directly connected with Union Passenger Terminal.



## Supply Trade

**L. B. Foster Company** has moved its Atlanta office to larger quarters at 795 Peachtree street and has named **Harold Ford** district sales manager there. **Clifford B. Bronson**, formerly assistant chief engineer maintenance of way, system, for the New York Central, will serve as an engineering consultant to the New York office. **George R. Forbes, Jr.**, has been named head of the pipe department there.

**Racine Hydraulics & Machinery, Inc.**, has purchased a second plant in Racine, Wis., which will be used for manufacture of railroad maintenance and power hacksaw equipment.

A new company, **Canadian Steel Foundries (1956) Limited**, has taken over the facilities of the steel foundry division of **Canadian Car & Foundry Co.**, and will operate them as a separate entity. **Edwin J. Cosford** is chairman of the board, **Allan C. MacDonald**, president, and **Gordon L. McMillin**, vice-president and general manager.

**R. A. LeBeau** has been appointed assistant to vice-president-sales of **Chicago Railway Equipment Company**.

**John E. Earp**, sales staff assistant, **Standard Railway Equipment Manufacturing Company**, has been appointed southeastern sales representative assigned to the eastern sales district, at New York.

The office and plant of **Warren Chemical Manufacturing, Inc.**, have been moved from Boston to 600 Pleasant street, Norwood, Mass.

**John A. McVicker**, superintendent of **Dominion Brake Shoe Company's** operations at Niagara Falls, Ont., has been appointed vice-president of the Canadian Ramapo Division. In addition to being responsible for operations at the Niagara Falls plant, he will also handle sales of the company's railroad products in the central region.

**Simplex Wire & Cable Co.** has appointed **Thomas H. Marsh** advertising manager, succeeding the late **E. J. MacKenzie**.

## OBITUARY

**Robert B. Pogue**, 67, consulting engineer and former vice-president, engineering, of the Brake Shoe & Castings Division, American Brake Shoe Company, died September 26 in the Orange Memorial Hospital, Orange, N. J.

to succeed **Charles H. Rombach**, who retired September 1. **Henry H. Williams**, chief clerk replaces Mr. LeHoullier.

**A. R. Lindeman** appointed supervisor trailer on flat car, Springfield, Mo.

**R. W. Troth**, superintendent of signals and communications, named general superintendent communications and signals for the Frisco and the Alabama, Tennessee and Northern, a wholly owned subsidiary. **R. E. Testerman**, assistant superintendent of communications and signals, appointed superintendent signals, and **R. M. Laurenson**, communications engineer, named superintendent communications. **J. S. Downs**, assistant communications engineer, advanced to communications engineer. All will have headquarters at Springfield, Mo.

**E. O. Daughtrey**, superintendent, Amory, Miss., transferred to the Eastern division, Springfield, Mo., succeeding **George H. Jury**, who retired October 1. Mr. Daughtrey's successor is **H. C. Bitner**, superintendent, River division, Chaffee, Mo., who in turn is replaced by **H. J. Lovelady**, transferred from the Central division, Fort Smith, Ark. **C. A. McLeod** replaces Mr. Lovelady. **R. H. Paschal** appointed assistant superintendent-roadmaster, York, Ala.

**GRAND TRUNK WESTERN.**—**R. J. Martin**, master of the car ferry (*Continued on page 44*)

## Questions and

Of current interest

**What type of injury occurs most frequently among train service employees? What are the principal apparent causes of these injuries, and what remedial action is being taken? Is there any proof whether the younger or older men (in length of service) are as a class more prone to these injuries....**



## Answers

to the Transportation Department

### Strains and sprains main injuries.

"We have many types, but strains and sprains lead. Getting on or off cars and engines is the foremost cause, followed by handling hand brakes, switches or derails and coupling or uncoupling cars.

"Experience indicates both 'old' and 'young' are injured. Forty seems to be the average age [of the injured persons] with 14 years of service.

"Our people will never be satisfied until we *eliminate* the type of injuries being sustained. Safety is handled by personal contacts, at safety meetings and we also use safety movies."—*E. W. Hobbs, superintendent of safety, Missouri Pacific.*

"Sprains and strains accounted for 30% of the reportable casualties to conductors, brakemen, engineers and firemen in road service in 1954, 1955 and first six months of 1956.

"Alighting from or boarding cars or engines accounted for 66% of sprains and strains sustained by conductors, brakemen, engineers and firemen in road service.

"Remedial action taken: Formal investigations are conducted in case of accidents to determine the cause and correct any unsafe practices. Safety is constantly kept before the employees by various means; at every opportunity officers discuss safe ways of doing the work with the employees. Special safety campaigns are conducted and given wide publicity to keep the employees safety-minded. Recently special emphasis has been placed on reduction of sprains.

"Scheduled safety meetings are held at various division-headquarters and elsewhere. In addition to attendance at the meetings of representatives of various crafts, who are regular members of safety committees other employees are encouraged to attend meetings and report unsafe conditions and practices. A safety

instruction car is in service.

"To obtain uniform understanding of the operating rules employees subject to the rules are examined and instructed periodically by an examining board of officers, including an officer of the safety department. The board holds examinations and instruction classes at various points on the railroad at which time safety matters are thoroughly gone into.

"Rules from books of rules of various departments are selected each week and published as a 'rule of the week' and given wide distribution.

"The length of service of employees who were involved in the casualties resulting from sprains and strains referred to is shown in the following table.

Length of Service	Percentage of Casualties from Sprains and Strains
1 to 5 years	31%
6 to 10 years	16%
11 to 15 years	13%
16 to 20 years	9%
21 to 35 years	4%
36 to 40 years	9%
	100%

"Study indicates that all of the casualties from strains and sprains which occurred in the 1-to-5-year service group, which had 31% of that type of casualty, involved road brakemen. The 10-to-15-year service group, which also had 31% of the sprains and strains, involved road brakemen in 50% of the cases.

"Road brakemen made up 41.4% of the four groups of road employees (road brakemen, conductors, engineers and firemen). Therefore, the fact that there were more brakemen employed than any of the other three groups referred to above should be taken into consideration in forming conclusions as to their proneness to injury.—*J. T. Andrew, general safety supervisor, Great Northern.*

CONDUCTED By G. C. RANDALL, district manager, Car Service Division (ret.), Association of American Railroads, this column runs in alternate weekly issues of this paper, and is devoted to authoritative answers to questions on transportation department matters. Questions on subjects concerning other departments will not be considered, unless they have a direct bearing on transportation functions. Readers are invited to submit questions, and, when so inclined, letters agreeing or disagreeing with our answers. Communications should be addressed to Question and Answer Editor, Railway Age, 30 Church Street, New York 7.

# NEW UNION C.T.C. System



## Mr. Railroad Executive: Are you interested in:

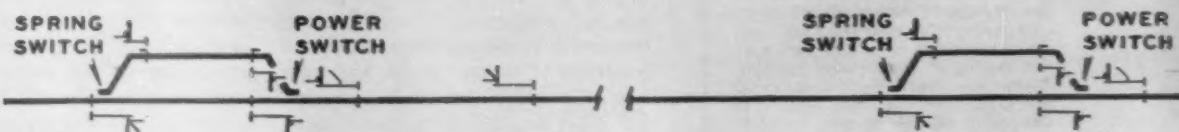
- 1 Reducing operating costs on Light Traffic lines?
- 2 Increasing safety and eliminating all the disadvantages of the time-table, train-order method of operation?
- 3 Improving train operation with faster schedules and fewer delays?
- 4 Obtaining the most modern, efficient and flexible traffic control system at the lowest possible installed cost?

If your answers are "yes," then get complete information on this new UNION C.T.C. System for Light Traffic Lines from our nearest district office. Ask for Bulletin No. 168.

**MODEL** showing the basic signaling arrangement for UNION Light Traffic C. T. C. System. This new low-cost C. T. C. system provides all the basic functions of the more elaborate systems, but can be installed at a cost comparable to automatic block signaling. It complies with I.C.C. regulations and the A. A. R. Standard Code. Furthermore, the system can be expanded to accommodate future changes in traffic.

Two installations similar to this basic C. T. C. system have been in service for several years and are giving efficient and flexible traffic control.

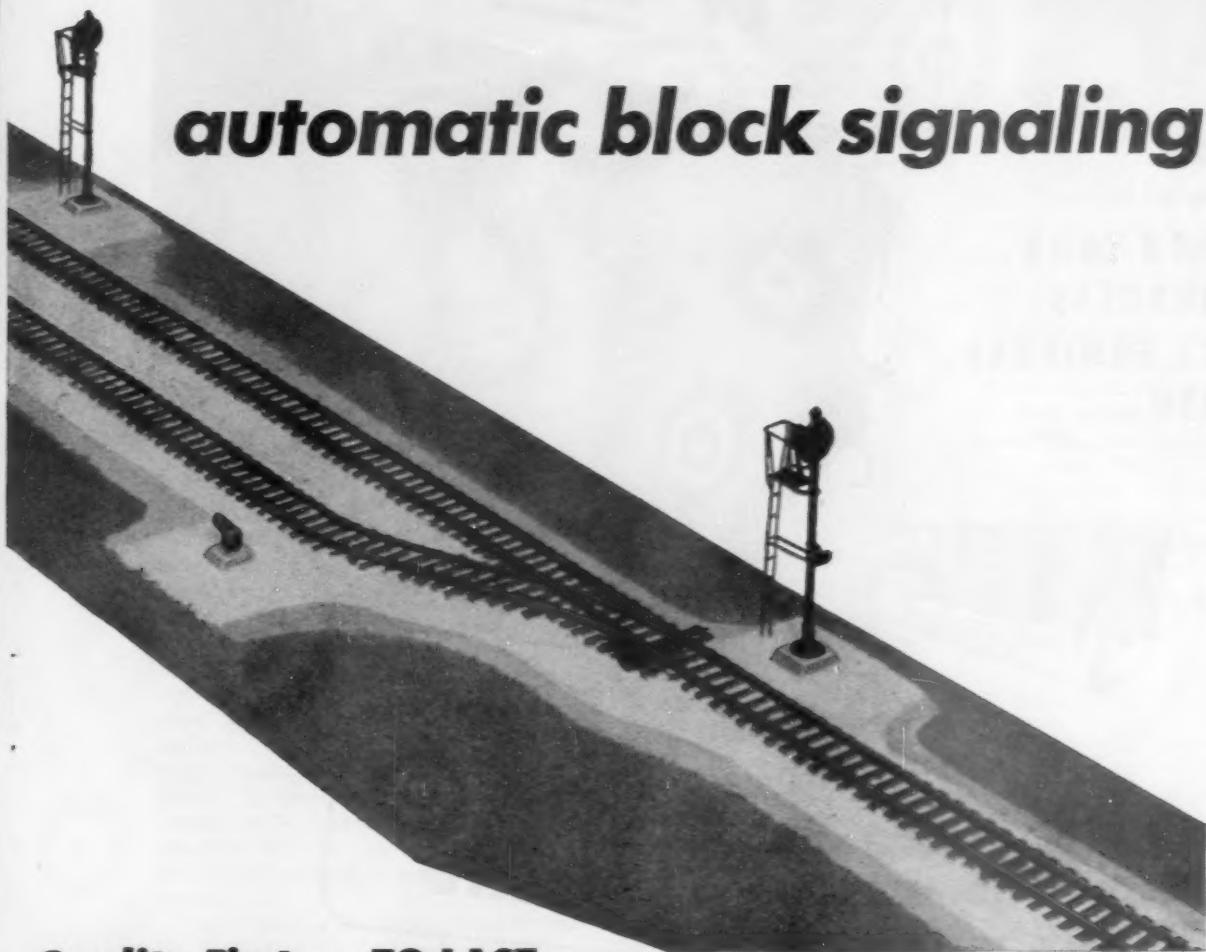
TRACK LAYOUT for Light Traffic C. T. C. System. Sidings may be arranged to best accommodate traffic with power switches at either end.



for Light Traffic Lines

*at a cost comparable to*

**automatic block signaling**



**Quality First ... TO LAST**

**75 Years**

1881            1956

OF EQUIPMENT AND SYSTEMS ENGINEERING . . . . .

**UNION SWITCH & SIGNAL**

Division of Westinghouse Air Brake Company  
CINCINNATI - PITTSBURGH - NEW YORK - CHICAGO - ST. LOUIS - LOS ANGELES

**One man  
DOES THE WORK  
OF FIVE!**

**WHEN YOUR  
GONDOLAS  
ARE EQUIPPED  
WITH ...**

**WINE**

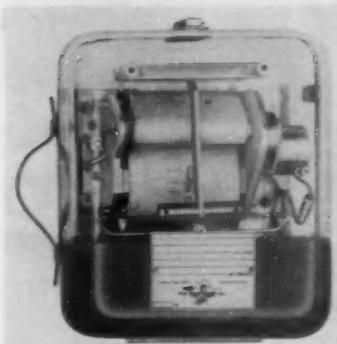
**DROP END  
BALANCERS**

The Wine Railway method of applying torsion springing in combination with trunnion hinges has proved a faster, more economical and a safer way to close drop end gondolas. Because the torsion action is greatest when the load is the heaviest, there is no need for a crew of four or five men to close even the largest drop ends.

Used in conjunction with Wine Drop End Locks for positive closure, these two devices provide combined benefits for both the owners and the users of the equipment. To date, 7,136 gondola cars on 22 different roads have been equipped with this combination. Write for bulletins containing additional information.

**THE WINE RAILWAY APPLIANCE COMPANY • TOLEDO 9, OHIO**

## WHAT'S NEWS in Products



**Shock Recorder for Locomotives**

An entirely self-contained impact recorder sensitive enough to indicate routine shocks to a locomotive is said to show clearly how the locomotive is being handled, indicating

the severity of starting and stopping. Idle time is clearly indicated and slack bunching and stretching can be distinguished from starts and stops of the engine itself.

Though designed for freight operation, it has been used to compare riding qualities of some of the new passenger trains. It is used in training of crews in preventive maintenance programs and can be concealed in the locomotive or mounted in full view. It is housed in a fiber-glas case and weighs 11 pounds. The unit's sensitivity is attributed to use of an alloy containing 90% tungsten. Equipped with a motor giving tape speed of 30 inches an hour, it can be used for a 24-hour period without attention. *Impact-O-Graph Corporation, Dept. RA, 1900 Euclid ave., Cleveland 15.* \*

#### For Heavier Dock Work

A new 3,000-lb 48-in. docker for use on shipping and loading docks, and which can operate in 7½-ft aisles and lift a capacity load 123 inches, recently became available. The docker is 96¾ in. long and 38 in. wide.

A heavier chassis and heavier uprights set on wider centers are provided on the new model. Drive tires are 16½ by 7 in. to take care of the larger capacity. Total weight, with battery, is 5,900 lb. Battery component top is hinged, the sides removable, and the steering wheel hinged for overhead or side battery removal.

Travel speed at 24 volts, depending on load, is 4½ to 5 mph while lift speed is 30 to 55 fpm. Forks



are adjustable from seven to 32 in. Mast assembly tilts 10 deg backward, or three deg forward. The docker is available with either monolift or duolift hydraulic lift. *Automatic Transportation Company, Dept. RA, 149 W. 87th street, Chicago 20.* \*

#### Degreasing Fluid

Permacel 34, a self-emulsifying-degreasing agent, can be used for degreasing diesel engines, cleaning undercarriages of trucks and cars, and for cleaning parts and tools. For most applications, the formulation is cut with 8 parts kerosene or light fuel oil. It is never used in the concentrated form.

The product can be sprayed or brushed on parts to be cleaned and then hosed down with water after a 20-min period. As the emulsified material flows on the floor, it will help clean the floor and degrease drain pipes and traps. It is available in 1-qt and 1-gal cans and 5-, 15-, and 55-gal drums. *Permacel Tape Corporation, Dept. RA, New Brunswick, N. J.* \*



**High Potential Tester**

Model 437 mobile type d-c Hypot is an instrument for use in testing insulation strength. The device finds many applications in determining insulation leakage before failure, as well as high potential breakdown voltage. Continuously variable output from 0 to 45 kv at maximum current of 2.5 ma can be read clearly on triple scaled meters. The tester requires 115 volts a c, 60 cycles as input. It is contained in a mobile case, mounted on rubber tired wheels. *Western Railroad Supply Company, Dept. RA, 2428 South Ashland ave., Chicago 8.* \*

#### Lift Truck Line

Fully automatic torque converter transmission features a new line of lift truck developed in a three-year research and manufacturing program. The transmission is said to permit for the first time "inching" under full load and simultaneous lifting and tilting. Power steering and hydraulic brakes which are said to adjust themselves to maintain proper clearance between lining and drum—obviating need for periodic brake shoe adjustment—are other features. Safety factors are also incorporated in the new line which provides added visibility by reduction of cowl height, new design of uprights and positioning of the driver's seat off-center. Gasoline, LP-gas, diesel and electric models are available. *Yale & Towne Manufacturing Co., Materials Handling Division, Dept. RA, Philadelphia 15.* \*



## What does an engineer do for GATX?

Engineering a special-purpose tank car is a job for experts. Stress, mobility, center of gravity, corrosion resistance—these are a few of the factors to be considered. At General American you'll find engineering specialists—men who pioneered with aluminum tank cars. These made possible bulk shipments of hard-to-handle liquids. You'll find men who developed the first flued-dome tank car, the first all-welded underframes, the first half-oval heater coils—and a long list of additional improvements.

This engineering skill and experience that make such developments possible is part of every GATX lease—a lease that provides shippers with the most dependable service available for bulk liquid transportation. When you lease cars from General American, you avoid the need for capital investment as well as operating, servicing and maintenance problems.

If you'd like additional information concerning the advantages of a GATX lease, call or write your nearby General American District Office.

*It Pays to Plan With General American*



### GENERAL AMERICAN TRANSPORTATION CORPORATION

135 South LaSalle Street • Chicago 90, Illinois  
Service Offices In Principal Cities  
Service Plants Throughout The Country



## How to Advertise "Public Relations" Goals

The advertising the railroads have done for "public relations" purposes (i.e., to try to get a better legislative and regulatory climate for the industry to operate in) has seldom been wholly free from criticism. No generally accepted "formula" for such advertising has so far been developed. In the diagram below we portray a suggestion for an approach to this problem. Comment and criticism are invited.

Advertising of this kind encounters two main dangers. It may seek primarily to promote a "favorable atmosphere." That is, it may impress upon the reader the modernity and progressiveness of the railroads, and show how they are doing an efficient job. The trouble with such advertising is that it runs the risk of leaving the reader with this impression—

**"The railroads are giving good service and they are doing okay—so nothing needs to be done for them. Leave well enough alone."**

The other danger is that the advertising may be too

narrow in its goal—its subject may be restricted to a specific piece of legislation pending in Congress. The difficulty with this kind of advertising is that it can't very well begin until it is known just what legislation is going to be introduced—and, by that time, it is too late for advertising to do an effective job of creating public opinion favorable to the proposed legislation.

For advertising to be effective toward the achievement of improved regulatory and legislative conditions for the railroad industry, it should embrace the whole field of sound transportation economics. If that is its subject matter, then the advertising will be helpful and timely, no matter what the specific goal of the moment may be.

The people who effect the actual "sales" in achieving these legislative and regulatory goals are the "direct contact" people. The basic work in this field is done by transportation economists and lawyers who dig out and analyze the facts. Their findings are communicated to the influential public by speeches, by the written word, by conversation. All kinds of railroad people and their friends carry on this work. The people who clinch the final "sales" are the legislative people—usually called "lobbyists."

The work of these "direct contact" people—like that of any sales force—can be greatly facilitated by judicious and continuous advertising. But "in and out" advertising, or that which wobbles around from one narrow objective to another from month to month, is usually a waste of money.

### A Public Relations Program—at the Policy Level

**BASIC CONDITION:** Satisfactory transportation service to the public, at demonstrably reasonable

prices. To be liked, an industry must do its best to deserve esteem.

**BASIC THEME:** Championing of private enterprise versus socialism in transportation—advocacy of maximum freedom in commercial policy for self-supporting transportation, mini-

mizing government favoritism of some agencies over others—to the end of providing public with best possible transportation service at minimum cost.

**VARIATIONS ON BASIC THEME:** Sound principles mean little unless put into concrete application. Hence the basic theme needs to be interpreted in terms of a dozen or more desirable objectives—emphasizing all the time, however, that these specific objectives derive their validity, not from any peculiar merit of their own, but because they im-

plement the basic premise of private enterprise as opposed to socialism. A program of public education should emphasize the basic theme, plus anywhere from one to a dozen specific projects which are definitely related to the basic theme. Some of these projects are—

"Three Shall Nots"	"Time Lag" Repeal	Fourth Section Repeal	Right of RR's to Provide Other Kinds of Transport	Right of Common Carriers to Compete Equally with Other Carriers	Compensatory Charges For Use of Publicly Owned Transport Facilities	Fewer "Exempt" Carriers	Etc.
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# Is Nuclear Power Practicable?

- Can a usable nuclear-powered locomotive be built within the railroads' controlling size and weight limitations?
- How would the energy released from the atom be made to turn the wheels?
- Would such a locomotive be hazardous to employees?
- Would it be safe in a wreck?
- How long would it run on one fuel charge?

THESE were some of the questions discussed at a session of the Seventh Railroad Corrosion Conference, held recently at Wrightsville Beach, N.C., under the sponsorship of the International Nickel Company.

In introducing this subject, F. L. LaQue, vice-president, Development and Research Division of International Nickel, said that his impression is that the problems of the atomic age are more those of materials than those of abstract physics. The theory, so far as nuclear physics is concerned, has been pretty well worked out. But the problems of controlling matter and getting materials that will survive the environments that become involved in these devices is rather troublesome. Yet an

**Q.. What would be the arrangement of equipment in a typical nuclear power plant for railroad motive power?**

**A..** We have a new source of energy, and it would be fine if we could turn it directly into electric power. To date there seems to be no way of doing this, so we are back to the old problem of creating pressure through heat to make something move. If water is used, as industrial reactors do in this country, a conventional boiler could produce the necessary steam to drive an engine to generate electric power to drive motors mounted on trucks in the conventional way.

With nuclear energy it would not be necessary to stop for fuel; you would not want to stop for water. This calls for a tremendous condensing system. Although it has never been built, an arrangement has been proposed that places a condensing unit (about twice the size of the locomotive) directly behind the locomotive. Europeans are using a gas turbine and the British have a carbon dioxide reactor.

In spite of its highly corrosive qualities, especially when heated, we are in the theoretical stage of using uranium hexafluoride gas ( $UF_6$ ) to drive a piston directly by energy produced by fission. The difficulty is that this substance at high temperature breaks down into  $UF_4$ , a green powder, and very corrosive

atomic-powered submarine has been running, and successfully so far as the public is informed, since January 1955, so interest in the possibility of using such an energy source on a locomotive is not merely academic.

A significant part of the question-and-answer interchange at the Wrightsville Beach meeting appears below. The answers were provided by W. E. Friend of the Corrosion Engineering Section of International Nickel and A. N. Rogers of the Engineering Department of Baldwin-Lima-Hamilton Corporation, which firm, in association with the Denver & Rio Grande, has had an atomic-powered locomotive study under way (Railway Age, April 4, 1955, p.7).

fluorine gas. Of course you cannot get any efficiency out of an engine with green powder collecting in the bottom doing no work.

We are now planning to make a "free-piston" engine, one end of which would be surrounded by a "moderator." A moderator is a means of slowing down the neutrons and controlling their reaction. They also must be reflected in a manner that prevents their escape from the engine. The engine works this way: the  $UF_6$  placed into the end of the moderator becomes fissionable, and radioactivity generates the heat to push the piston. One method is to have two reactors, one at each end of a cylinder, to push the piston back and forth. Power could possibly be picked up electromagnetically. This plan requires no condensing system and there will be no problem of transferring heat from the outside; the heat is used directly.

**Q.. What means is used to heat the  $UF_6$ ?**

**A..**  $UF_6$  contains uranium 235, which is fissionable. It loses some of its mass in breaking up into two other atoms. When you lose mass you create energy and thus heat the gas by its own action.

**Q.. Is UF<sub>6</sub> going to be the source of energy as well as the fluid for utilizing it?**

**A..** That is what makes this design interesting—the fact that no intermediate heat transfer is needed. UF<sub>6</sub> will not only be the source of energy but will push the piston as it is heated.

**Q.. How is this reaction controlled so that it doesn't keep building up?**

**A..** There are various ways of handling it. One is by inserting so-called nuclear control rods. These absorb neutrons and slow the reactor down. An alternative would be to rely on the laws of physics, causing the gas to expand so fast that it would become subcritical. In a fraction of a second, that is, no heat is produced in the left, or butt, end of the cylinder. As the piston moves in the other direction the right end become critical, giving off heat and returning the piston. Then the reaction on the left side starts all over again.

**Q.. How much shielding would be needed and how would this be provided?**

**A..** Dimensional limitations of railroad equipment present a problem, but adequate shielding is not impossible. Two kinds of material are needed for a shield—a light "poison" material to absorb neutrons and a heavy substance such as lead that will absorb gamma rays. With the proper arrangement of these two materials the equipment should be completely safe.

**Q.. Do minute doses of radiation have a cumulative effect? (Hypothetically the situation was proposed wherein an employee working in a station might conceivably be exposed continuously over a period of years.)**

**A..** It is a fact, according to the Atomic Energy Commission, that exposure can be cumulative. It is believed that sufficient shielding is possible to make this repeated dosage negligible when figured over an ordinary life span.

**Q.. Is there a known safe distance that one must keep away from a reactor of unknown radiation?**

**A..** Intensity decreases with distance. In the case of a nuclear powered locomotive, the reactors and their shielding must be calculated so that a man can work right on the outside of the reactor 40 hours a week. This should be the ultimate goal of the designers. Size and weight limitations, however, seem to indicate that a more realistic figure may be nearer two hours per week.

**Q.. How do you handle maintenance?**

**A..** Even though the ultimate in design would be no maintenance, there will be some. If nothing else, replacing the exhausted fuel cartridge, which must be withdrawn to clean it up chemically and restore its potency, is an essential operation.

**Q.. As portions of the apparatus itself must be subject to radioactive bombardment, what provisions can be made for the actual servicing or rebuilding of those parts directly affected?**

**A..** At the high radioactive levels we must resort to the

use of remote-controlled tools, manipulators, cranes, etc. The factor of distance as well as shielding must be considered. Simplicity of construction is essential.

**Q.. Barring accidents, how long would a nuclear reactor be able to function without attention?**

**A..** The locomotive now being planned should run for a year or two without even being looked at. This is one of the most attractive features.

**Q.. Could a nuclear powered locomotive be built so that the hazards of a wreck would be tolerable?**

**A..** The very nature of the heavy shielding and its supporting structure would make this type of locomotive practically indestructible from a standpoint of breaking open under the force of a collision.

**Q.. Has any insurance company quoted a premium for insuring a liability on a nuclear powered locomotive?**

**A..** Not yet. They will take a risk up to \$15 million on a single stationary reactor. They might make a similar offer on a well designed mobile one.

**Q.. What progress has been made in designing a nuclear powered locomotive?**

**A..** Because of the nature of the source of energy the design is still in the area of mathematical and physical theory.

**Q.. How large would a locomotive of the type we are discussing have to be?**

**A..** It would have to remain within the dimensional limitations of existing equipment except for length. The factor of weight must also be taken into consideration. In short, all limitations are figured on present railroad equipment.

**Q.. Would the total power developed be in a single unit or in a series of units of some rated horsepower, such as they have in diesels?**

**A..** We are limited by economics and the laws of physics at the same time. Reactors are not too efficient if they run too slow. It may be wise to go into something larger because a reactor will not function unless there is a critical mass. First thoughts were around 2,000 hp; now it looks as if 4,000 or 5,000 hp might be more practical.

**Q.. Is there a disposal problem with nuclear power?**

**A..** Yes. It will be necessary to set up a plant to reprocess the material. The arrangement should be such that the railroads would remove the "cartridge" and send it to the reprocessing plant, have the "poison" removed and the unit restored, like a battery, to its original strength.

**Q.. How many cylinders did you have in mind for the nuclear powered locomotive?**

**A..** One cylinder would be the most practical. For each cylinder a minimum critical mass of fissionable material is required. At \$10,000 a pound it should be kept down to a single-cylinder engine.

**Q.. How long will it be before you "put them in your catalog"?**

**A..** Recently one of the builders suggested that they might have an atomic locomotive to offer by 1970.



**Here she comes**

**There she goes**

## Reclaiming Old Ballast

If you have removed tracks—or expect to—you can make the ballast under them “good as new.” Cost of the reclaimed ballast: \$0.75 per ton. New ballast: \$1.75.

That is the experience of the Pennsylvania, after taking up a stretch of 22 miles of main track between Lancaster and Parkesburg, Pa. The stone ballast left is being reclaimed for reuse. Track-maintenance gangs report it is equal to new material.

Machine used is an Athey Model 188 Ballast Reclaimer, consisting of two units. Towing unit picks up and cleans the ballast. Towed unit loads ballast into hopper cars.

This work requires a foreman, one engineer work equipment, and one machine operator—plus the required work-train crew. The foreman rides on the work train and directs its movement so that cars are loaded properly by the ballast reclaimer. The engineer work equipment operates the lead unit of the ballast reclaimer, guides it on the former roadbed and controls the digging depth. The machine operator controls the rear conveyor unit, swinging the boom so that the chute deposits cleaned ballast into the cars.

Altogether, the PRR has taken up more than 200 miles of main track. It is thought this involves enough ballast to keep the outfit busy for two years. Byproduct of reclamation: drainage is improved for the remaining tracks.

### Equipment

**Towing unit** combines the Athey Model 125 HiLoader with a shaker screen. It carries a patented full-floating feeder at the front, equipped with a cutting edge which can be raised or lowered to the desired depth

of cut. The feeder carries the material to be reclaimed to a loader belt which transports the foul ballast to a shaker screen where the dirt and fines are screened out to fall back on the ground. The cleaned ballast

moves to a receiving hopper where it falls on a conveyor belt of the towed second unit.

**Towed unit** carries a long elevating belt conveyor which is powered



by a separate engine mounted on the unit. The discharge end of this conveyor is equipped with a hopper and a delivery chute, the latter being adjustable so it can load cars standing on a track either at its right or left. The conveyor boom is raised and lowered hydraulically to load high-sided hopper cars and may be swung 17 deg on either side of center.

#### How It Is Used

**First pass**—The outfit started at the Lancaster end on April 16, 1956, without any preliminary scarifying or windrowing of the ballast. The reclaimer began digging a swath 3 ft wide and 6 in. deep, loading the cleaned stone into hopper cars of a work train on an adjacent main track. In a little more than two hours working time four cars had

been loaded, each with about 65 tons of cleaned ballast. After nine days the outfit had traveled 6.3 miles on its first pass and had reclaimed approximately 4,030 tons of ballast. The rate of loading was now 22 min for each car.

By June 20 the machine had completed its first pass over the 22 miles and had loaded 215 cars, or approximately 14,000 tons of ballast. The best performance of this outfit has been the loading of 20 cars in 4 hr, 18 min actual working time, which is at the rate of one car loaded in 13 min, or 300 tons per hour.

**Second pass**—The outfit was turned around and made a second pass over the same roadbed, working toward Lancaster. Because of the harder digging encountered on the second pass, a tractor with a rooter attachment was used in ad-

vance of the machine to scarify the surface to a depth of about 12 in. This loosened the stone and enabled the machine to obtain better production while digging to a depth of about 8 in.

**Safety precautions**—The work between Lancaster and Parkesburg is in electrified territory. To eliminate the hazard of an accident which might be caused by the conveyor boom striking a catenary wire, the road used a diesel engine for the work train and the wires over the adjacent main track were de-energized during the time the ballast reclaimer was working. One or two gang watchmen, with whistles and flags, also were used to warn the men of approaching trains, the two being employed when working around curves or wherever the view of approaching trains was limited.

# More Signaling for More Economy

Faster uniform humping speed at classification yards—Ways to make the signal dollar go farther—How to educate employees—These were among the subjects discussed at recent Signal Section Meeting

New equipment and control systems "that will permit switching cars at least twice as rapidly as the best hump yards presently will allow" is one of the objectives of railroad managements. This view was expressed by E. L. Potarf, general manager of the Burlington, at the annual meeting of the AAR Signal Section in Chicago, September 20-22.

Mr. Potarf said the design should "retard the necessarily high early breakaway speeds in such increments as to absolutely preclude shock, with its wasteful damage to lading, and without relinquishing positive control of the car in the classification track until the coupling drops into place. Automatically gearing hump locomotive speed precisely to the varying capacity of the retarder system to dispose of the cars is obviously necessary to obtain maximal hump utilization."

His further suggestions were:

- "Give us cab signals that tell us what to expect where we are going, instead of what we have where we are, simplified so costs can be chopped to a fraction of those prevailing in order to guarantee widespread use, thereby enhancing safety and allowing roadway or equipment considerations, instead of signals, to dictate top speed."
- "Arrange future signal layouts to provide adequate braking distances for faster freight train operation."
- "Adapt microwave, carrier, automatic train routing and any other devices needed, to insure low cost absolute control of all train movements over thousands of miles of line from one central location, where the most proficient supervision can function."
- "Electronic identification sys-

tems, or the principles involved, surely have an important place in railroading of the future for reading car numbers, routing train movements, locating hot boxes and the like." The signaling officer, said Mr. Potarf, can guide the operating man in the effective use of these and other new tools. "The accelerating escalation of labor and material costs is of the most pressing importance to the operating man," he continued, "and while the memorable economies resulting from dieselization kept the wolf from many a door in the past decade, we cannot at this moment forecast any similarly spectacular means of offsetting these continually mounting demands. The need for paring soaring expenses is great; the issue must be met despite potent obstacles. Projects involving signaling rate well in producing good returns on investment."

## A New Use for Television

"Television is now being used by one railroad as an adjunct in crossing protection," reported E. N. Fox of the Boston & Maine, chairman of the Signal Section. "A crossing tender at one crossing has manual supervision of protection at other crossings at which television cameras are in service, with a receiving set

in the tender's cabin. If the tender sees a traffic jam forming at a remote crossing just prior to the approach of a train, he can manually start the operation of the flashing-light signals at the remote crossing, thereby holding back street traffic and aiding in clearing the crossing before the gates are lowered."

Mr. Fox said: "As to the more distant future, who can foretell the possibilities of television? Possible push button control of a whole railroad from one headquarters point, with complete television pictures of all vital operations? Or handling all signal controls by microwave with a minimum of pole lines?"

## More Fresh Air for Enginemen

"The safety record of most American railroads demonstrates that a naturally hazardous business can be made relatively safe through persistent efforts," said Owen Clarke, member of the Interstate Commerce Commission. "However, the most casual glance at statistics discloses that even higher standards of safety can and must be achieved.

"Unfortunately, in some few instances, lately, non-compliance with

certain of our rules has been allowed to continue for some time. One section of the rules in particular with which we believe the railroads have had ample time to comply, but which is still being violated, requires certain specified protection for hand-operated main track crossovers. We regard strict compliance with this rule as a most important duty of every railroad, and we intend to enforce it with increasing vigor.

"Last year I outlined the commission's policy in administering the rule requiring electric locks on hand-operated switches in traffic control territory. We recognize that rigid enforcement is retarding the installation of traffic control systems. Obviously, this would not be in the public interest. We have repeatedly granted relief from this requirement under certain well-defined conditions.

"Another matter causing the com-

mission considerable concern is the increasing number of accidents in recent years which apparently are a by-product of the widespread dieselization. The circumstances surrounding such accidents strongly suggest that the locomotive crew may have been asleep.

"The conditions in the control compartment of modern diesel locomotives, because of their good

riding qualities, protection from weather and other built-in comforts, together with the possibility of no ventilation, and the rhythmic drone of the engines, apparently are conducive to drowsiness. This is a matter that certainly must receive further serious attention, and might well be the subject of a special investigation by the industry.

"If stricter disciplinary measures

will not work, some other means will have to be found to keep train crews alert and alive. In the absence of a practical solution to this problem the commission may have to resort to the one avenue of approach open to it, notwithstanding the tremendous costs involved. That, of course, would be to require further installations of automatic train control devices."

## Modernizing the Railroad

"The early automatic block signal, interlocking, automatic train stop and train control installations were primarily made to improve the safety of railroad operation. Hence signaling was looked upon as a safety measure only. Railroad signaling now has come of age, retaining all of the safeguards to railroad operation with which it was born; in its maturity it has become a vital necessity to the economical operation of rail traffic. Happily now the signal engineer can answer the question 'How much does

it cost?', by the statement 'Signaling doesn't cost—it pays.'

These statements were included in a paper by H. A. Scott, chief signal engineer of the New York Central. "On most of our Eastern railroads," he said, "the problem of handling high density traffic was solved in the earlier years by the only device then available, namely the building of additional trackage on which traffic was operated in one direction only. The development and highly satisfactory performance of CTC, permitting

safe utilization of track by traffic in either direction, makes the retention of such excess trackage a luxury that railroads can ill afford. On my railroad we currently have CTC projects authorized on approximately 700 miles of road involving 1,150 miles of track. All of these projects involve converting from three and four tracks to double track or from double to single track. Three of the projects involve high density traffic in the form of 60 to 90 trains per day both passenger and freight."

## Ideas from Panel Discussion

Here are some of the good ideas brought forth during panel discussions at this Signal Section meeting:

By welding short sections of  $\frac{3}{8}$ -in. rod on top of the rail in approach to turnout curves in classification yards, enough vibration is set up to loosen truck pivot bearings, thereby preventing excessive variation in curve resistance and loss of speed by cars with "slewed" trucks. Another method, used on one road, is to grind out eight or nine spots 3 in. apart to form "washboard" effect on top of the rail. This shakes cars and thus loosens tight truck bearings.

Other roads use guard rails to straighten "slewed" trucks as they come out of the curve on the turnout. One road which installed a flange oiler has had no trouble, but another road reported that excess oil reduced the retarding effect of the retarders.

When installing a broken-wheel detector it should be located near the apex of the hump so that if a broken wheel is detected, time is available to change the routing to send the car to the repair track.

A new idea in use of TV to grab car numbers is not constant vision, but a separate picture of each car, the film of which is developed and available to be "seen" in 15 seconds.

At this year's meeting of the Signal Section held at the Conrad Hilton Hotel in Chicago, the attendance reached a new peak, including 504

railroad men and 268 representatives of manufacturers. The program included other addresses in addition to those reported here, as well as the reports of 12 standing committees. More details about this convention are reported in the October issue of Railway Signaling & Communications.

## SIGNAL SECTION OFFICERS



Left to right: W. G. Salmonson, Pennsylvania, second vice-chairman;

A. L. Essman, Burlington, first vice-chairman; E. N. Fox, B&M, chairman.



UNLOADING flat car while switcher waits, a 26,000-lb capacity fork lift hoists first container for transfer to

truck. Four units are moved off car in 20 minutes. Reloading the car with empties takes about the same time.

## Car Line Tests Containers

Meat packer tries NADX "Mobile Reefers" in 90-day test operation on Milwaukee—Service cost savings are studied

A private car line has moved into the container-on-flat-car picture with a special meat-handling service between Austin, Minn., and Chicago.

Cooperating in the 90-day experiment of the new refrigerated container service are North American Car Corporation, George A. Hormel & Co., and Clark Equipment Company. The rail movement is via the Milwaukee.

This "mobile reefer" system, as it is termed, utilizes four 475-cu ft boxes per flat car. The boxes, cooled by dry ice, are repacked in delivery route order at the Hormel plant in Austin. After a noontime departure a loaded flat car is spotted in Chicago at 6 a.m. the following morning. Containers are then transferred from flat car to truck chassis by fork lift for early morning delivery to neighbor-

hood stores. This car-to-truck operation takes about 20 minutes.

Use of the "mobile reefers" eliminates the across-the-dock handling which is required when regular refrigerator cars are used. According to its backers, this new development promises to cut overall transportation costs and reduce damage. During the test period deliveries are being made in Chicago three mornings a week—Mondays, Wednesdays and Thursdays.

### Here's the Equipment

From a railroad standpoint, the container-flat car operation is treated as a straight reefer movement. The equipment is owned by North American and leased by Hormel, and the regular refrigerator-car mileage allowance applies. Each container

handles up to 10,000 lb, providing maximum net tonnage of 40,000 lb per car.

Flat cars in the new service—two, so far—are equipped with locking mechanisms developed by Clark Equipment for its own Mobilvan system. The locks in the deck of the car engage the latching device in the base of each container, and the fork lift automatically trips this lock for loading or unloading.

In addition to this latching mechanism, each specially-adapted 53-ft 6-in. flat car has an Equipco generator that works off the wheel and delivers 110 volts a-c. This provides power for turning circulating fans inside the containers while the car is en route. A receptacle is provided so standby power can operate the fans when the car is standing.



BOB TRUCK chassis handles single "mobile reefer" on delivery run. Each NADX container carries around 10,000 lb of meat which is loaded in delivery route order. Dry ice keeps temperature inside the box at around 36 deg.

The car deck has five 6 by 8-in. oak dividers to aid in positioning the containers and provide safety.

The steel containers, built by Highway Trailer Company, are insulated in the ceilings and upper walls with four inches of Fiberglas. Beneath the extruded aluminum floor of each

container the insulation is 4 inches of Styrofoam, and this extends upward 12 inches inside each wall. Full height doors are located in the end and one side of each box to help speed the loading and unloading of contents.

The units are equipped, also, with



VISIBLE in deck of flat car are the built-in locking devices that automatically grab and lock each container in place. Heavy timbers on deck aid fork lift truck operator to position the containers speedily.

200-lb capacity Foster dry ice bunkers with circulating fans. There are no thermostat controls but proper temperatures are obtained by varying the amount of dry ice used. A North American Car spokesman said the estimated "unit life" of the containers is eight years.

## Railroading

### After Hours

#### Idaho "Zulus"

I have a letter from retired Rock Island Superintendent J. W. Myers at Vero Beach, Fla., in which he sheds some light on the "zulu" question—propounded here a couple of weeks ago.

Most of Mr. Myers' earlier railroad career was on the Union Pacific—and he says that, out in Idaho, from June to September, the "zulu" traffic used to be heavy. "I would say that half the people that settled in the Snake River valley were from the Middle East; and they came in by zulu car."

"Since your dad was a conductor," Mr. Myers continues, "he could have told you that the zulu cars were marked in chalk either 'Jug' or 'No Jug'; and it's needless to say which one got the easier handling."

Mr. Myers winds up by inviting me to look in on the "No Work, No Worry Club" at Clearwater—made up of retired railroaders, suppliers and traffic men. I've heard good reports from this outfit before and I'll take him up on his invitation the next time I get down that way.

Meantime, if anybody knows how

by  
James G.  
Lyne



Editor,  
Railway  
Age

the term "zulu" originated, and whether any such cars are still being run, I wish they'd let me know.

#### Training Managers

President Fred Okie of the B&LE told me on the day of the Harriman Awards presentations a couple of weeks ago about the program of management development now in effect on the B&LE.

There are 15 men, representing all major departments, in the first class. Another class will be formed next year. The course runs for 21 weeks, and includes individual instruction in all departments of the railroad, including general and executive office functions.

Related classroom instruction, at the college level, is being provided at Thiel College, in the fields of Human Relations, Practical Economics, Cre-

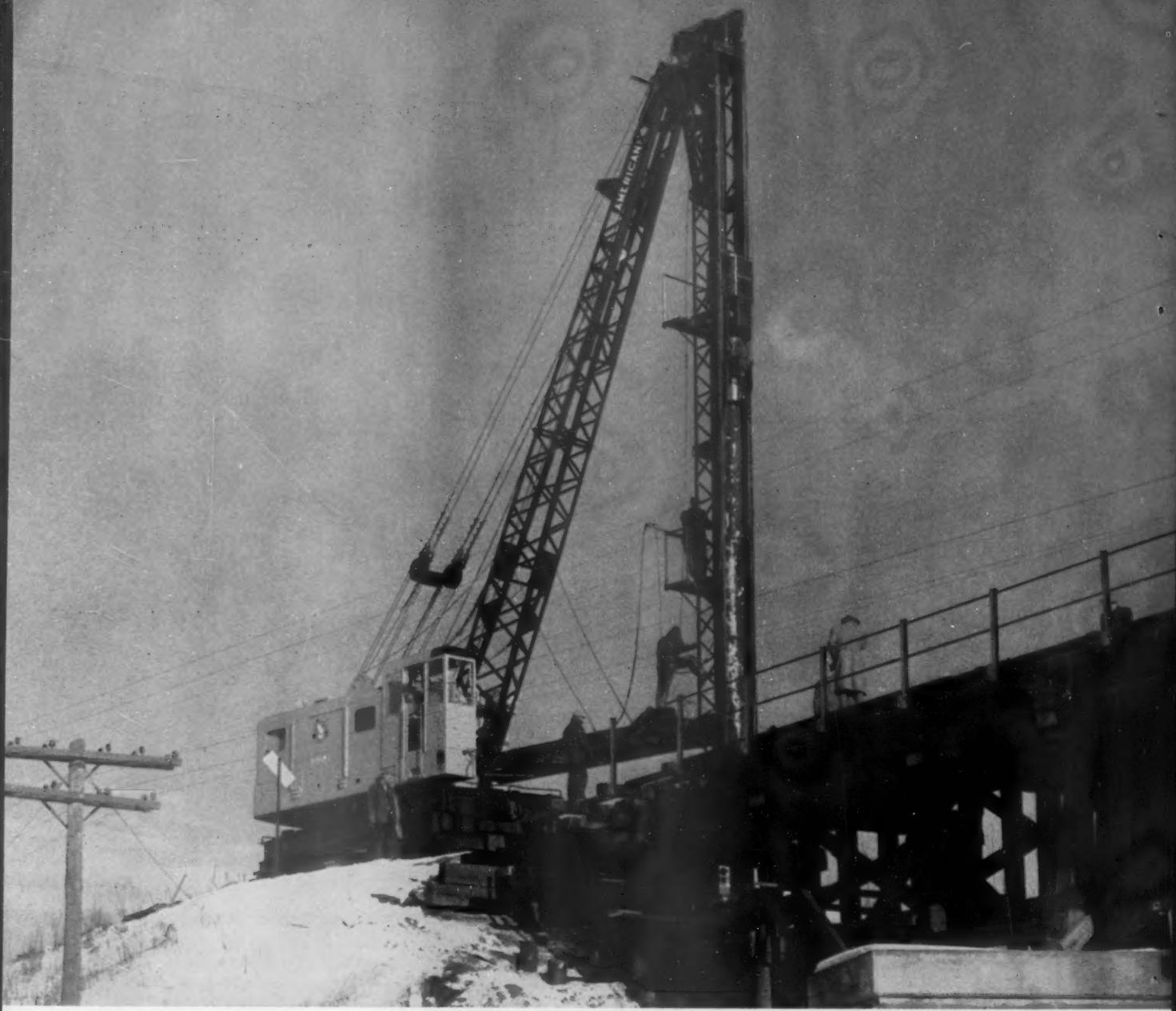
ative Thinking, Problem Solving and Basic Management Skills.

#### Passenger Service Standards

I get a lot of mail reporting both attentive and unsatisfactory service by passenger train employees. Mayo Smith of New York writes to tell of particularly splendid service his wife and three sons received at the hands of Coach Attendant A. J. Harris of the PRR. H. D. Murphy of Chicago, by way of contrast, writes:

"The employees of the railroads, generally, are not enthusiastic about their companies or their jobs. Their usual reaction to any complaint or criticism is to agree that the industry is poorly managed, their particular road is poorly run, and they don't see why anyone travels by railroad."

I sometimes wonder whether exceptionally considerate treatment of passengers by employees is really what is called for in this situation. All praise and power to these especially attentive employees, of course—but isn't the real need a high minimum standard of employee deportment, below which no employee ever goes?



## 17° BELOW, BUT THE JOB'S ON SCHEDULE

### Great Northern Crew Drives 1 Pile Every 4 Minutes

Railroads operating in the snow belt run into additional maintenance and construction problems during the long winter season! In the West, rains cause washouts and landslides. In the Midwest, cold weather, snow and frost are the big obstacles. The best equipment, like American DiesElectric Locomotive Cranes is required to operate normally in sub-zero temperatures! When the picture above was taken, it was 17° below zero, but the job was right on time! In fact, the Great Northern Railway's big 40-ton American and a Syntron diesel pile hammer were driving one 45-foot pile every 4 minutes! The frost, hard as rock, was 27 inches deep!

The ability to produce at top capacity in any climate, on every assignment is just one of American's profit features! Add to this, sensitive air controls and the

patented\* DiesElectric system that cuts maintenance costs up to 50%, and you know why American Cranes are an important part of modernization plans and purchases of major railroads—like the Great Northern. For the complete facts on American DiesElectric Locomotive Cranes—in 25 to 80-ton capacities—write:

\*U.S. Patent No. 2083460

**AMERICAN HOIST  
and Derrick Co.**

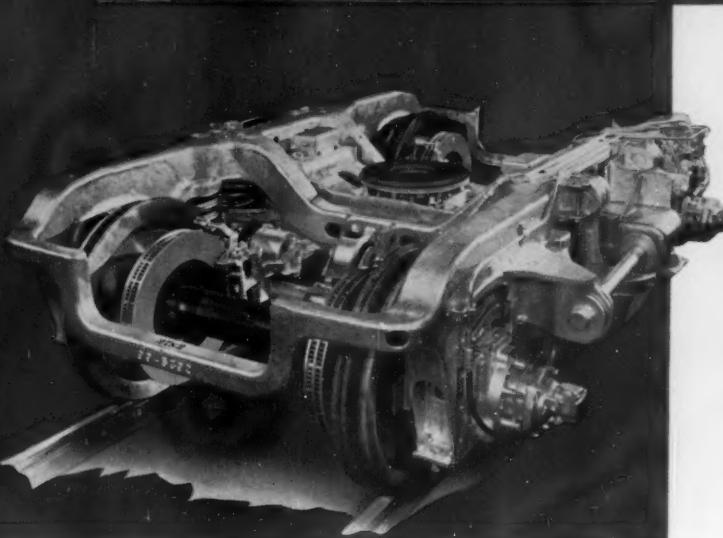
St. Paul 1, Minnesota

# All New "Hi-Level" Cars

## for the Santa Fe El Capitan with Commonwealth Trucks and Central Bearings



Built by The Budd Company



**Provide a Smoother,  
More Enjoyable Ride  
with Increased  
Operating Economy**

The famous Santa Fe chair car train, El Capitan, will be completely equipped with newly designed "Hi-Level" equipment, each train consisting of seven chair cars, a diner and lounge car. All these cars will ride on Commonwealth *Outside Swing Hanger Trucks* of latest design including *Central Bearings*. These features emphasize increased passenger comfort and lowest operating cost.

Commonwealth Trucks with outside spring sus-

pension assure better, smooth riding at all speeds —simplify inspection and upkeep. Central Bearings eliminate truck shimmy and side bearing problems, increase mileage between wheel turnings and substantially decrease costs.

More and more leading railroads are using Commonwealth Outside Swing Hanger Trucks and Central Bearings for new as well as existing passenger cars to improve travel comfort and reduce maintenance expense.



## GENERAL STEEL CASTINGS

GRANITE CITY, ILL.

EDDYSTONE, PA.





## The best cranks have an even disposition ... including our Mr. Searns

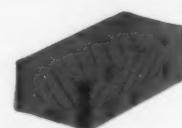
Since his first day as foreman of the O-P Crankshaft Machining Department, our Mr. Searns has been quite a crank—about crankshaft perfection. Through the years he has had a front-row seat in watching design improvements in the Fairbanks-Morse Opposed Piston engine.

One of the things our Mr. Searns is particular about is the accurate machining of the integral cast counterweights that reduce dynamic bearing loads . . . eliminate the problem of checking and maintaining attached counterweights in service.

Together with other advances in the O-P, this has eliminated "critical" bearings . . . reduced checking and maintenance.

As a matter of recorded fact, no comparable engine can equal the crankshaft, connecting rod and bearing life of the O-P.

This continuing research for better performance and longer life is an important part of Fairbanks-Morse's customer service and the basis for our constant product improvement—part by part. Fairbanks, Morse & Co., Chicago 5, Illinois.



Be sure you get the Dividend of Quality—specify genuine Fairbanks-Morse replacement parts. They are identified by the orange carton—and the Fairbanks-Morse Seal of Quality.



### FAIRBANKS-MORSE

a name worth remembering when you want the BEST

DIESEL LOCOMOTIVES AND ENGINES • RAIL CARS AND RAILROAD EQUIPMENT • ELECTRICAL MACHINERY • PUMPS • SCALES • WATER SERVICE EQUIPMENT • MAGNETOS

# **Alcoa® Aluminum**

## **in modern freight cars**

A FOUR PAGE PROGRESS REPORT

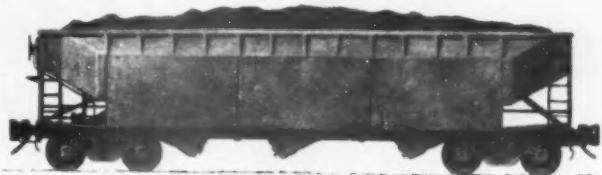


### **Farsighted men bought these revolutionary cars**

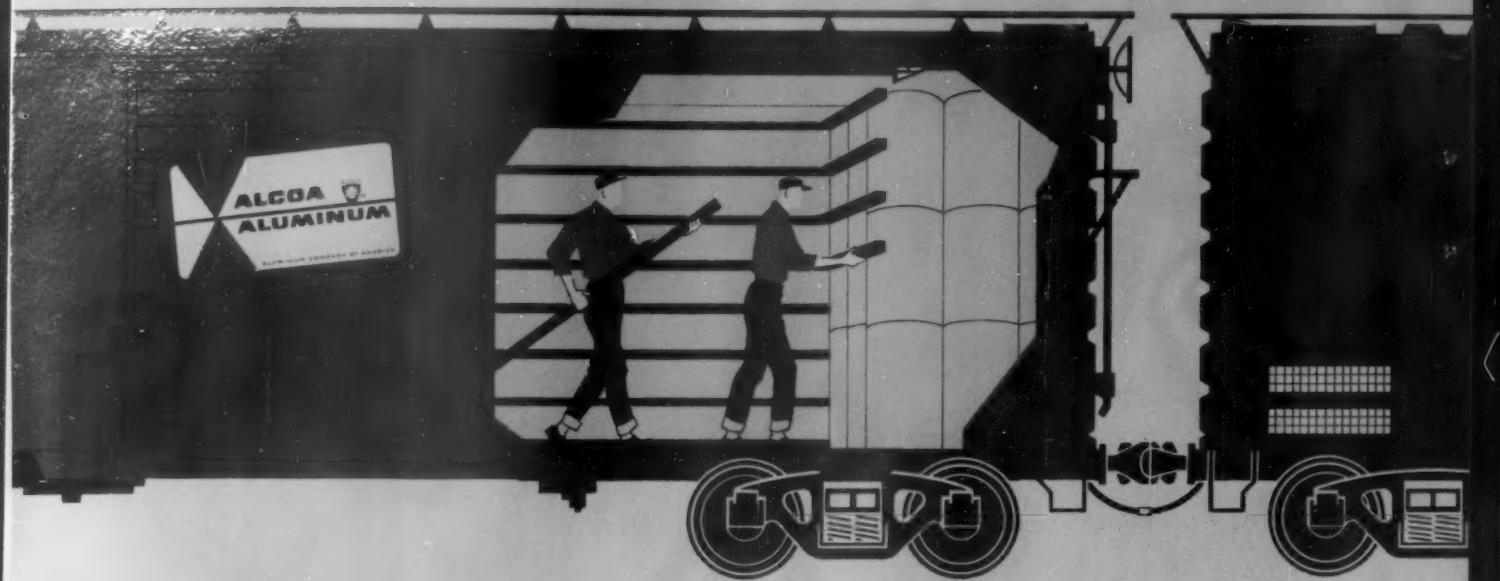
Back in 1928, a group of farsighted men caught a glimpse of the future. They saw the wonderful benefits of aluminum for tank car construction. Corrosion resistance and noncontamination which would mean less maintenance and greater diversity of commodities. Since then, more and more aluminum tank cars have been bought by farsighted men for shipping corrosive chemicals and products which must not be contaminated.

Today, there are sizable fleets of aluminum tank cars. To make these aluminum cars possible, Alcoa developed new aluminum alloys, rolled aluminum plate wider and thicker than it had ever been rolled before, helped develop new techniques for welding aluminum cars.

Now, farsighted men are still looking to the horizon. They're using aluminum hopper cars to ship sulfur and sulfur bearing coals; they're utilizing more aluminum in boxcars and reefers. On the following three pages, you will see some of their new ideas. When you are looking beyond the horizon, come and let us help you imagineer . . . in Alcoa Aluminum.



# Alcoa® Aluminum in



## **Lightweight, durable Lading Bars**

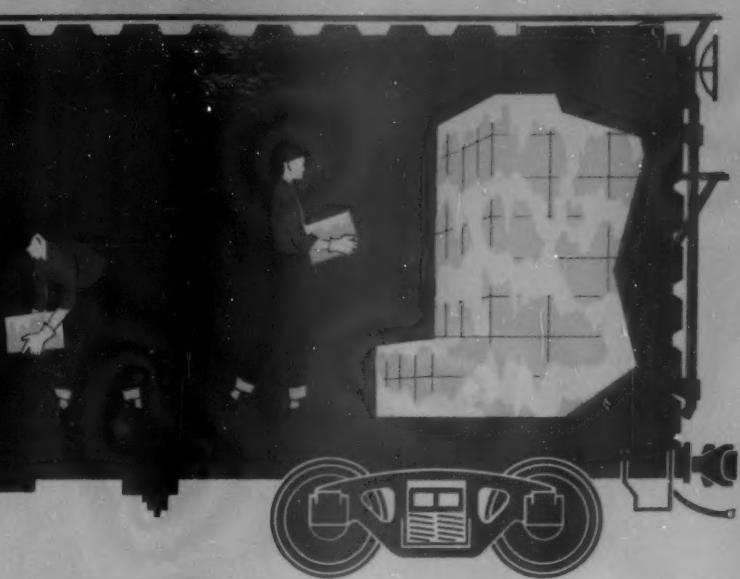
Now you can make damage-free cars even more useful. Lading bars using an Alcoa® Aluminum tube weigh only 40 lb, compared with the conventional bar weighing 75 lb. Made from a tough, durable aluminum alloy, these lading bars can't splinter, can't rot, can't warp, can't rust. They're always ready for service and their long life will pay for their cost many times over. Because aluminum bars are so much easier to handle, shippers load cars faster and better. Ask Alcoa about this square aluminum tube to fit your equipment.

## **At last: a TRUE one-man Boxcar Door**

An ordinary six-foot boxcar door weighs 510 lb; the same design in aluminum weighs 225 lb. And the trend is to wider doors with increasing weights. No wonder so many doors are damaged when forced open with fork lifts, sledges and crowbars. Put them in Alcoa Aluminum and have doors that can be easily opened, won't stick in tracks and won't rust. Contact your door or car supplier, or call on your Alcoa salesman for information about Alcoa Aluminum boxcar doors.

An additional thought for alert railroaders: consider the advertising value of a big, bright aluminum door with your message written on it in reflective material. You can make every boxcar a traveling billboard for your line—worth thousands of dollars in free advertising space!

# modern freight cars



Mechanical refrigerator cars are now being built with aluminum ceiling panels. Why aluminum? For one thing, it is a good thermal conductor with excellent "cold transfer." Cold air above the aluminum ceiling readily pulls heat from the lading below. And the aluminum ceiling doesn't rust. It will last the life of the car. Moreover, aluminum helps keep down the weight of the car.

## Reefer Ceiling with super "cold transfer"



### Let us help you "Imagineer in Aluminum"

Aluminum is coming into its own in freight car design, for roofs, doors, reefer ceilings, lading bars, and head-end cars. To be sure, the first cost is usually higher but when the first cost is also the last cost, you are money ahead. We urge you to "Imagineer in Aluminum." Alcoa has unparalleled experience and facilities to help you do it. Aluminum Company of America, 2180-K Alcoa Building, Pittsburgh 19, Pa.

### Your Guide to the Best in Aluminum Value



THE ALCOA HOUR—Television's Finest Live Drama  
Alternate Sunday Evenings



# Alcoa® Aluminum

## in modern locomotives

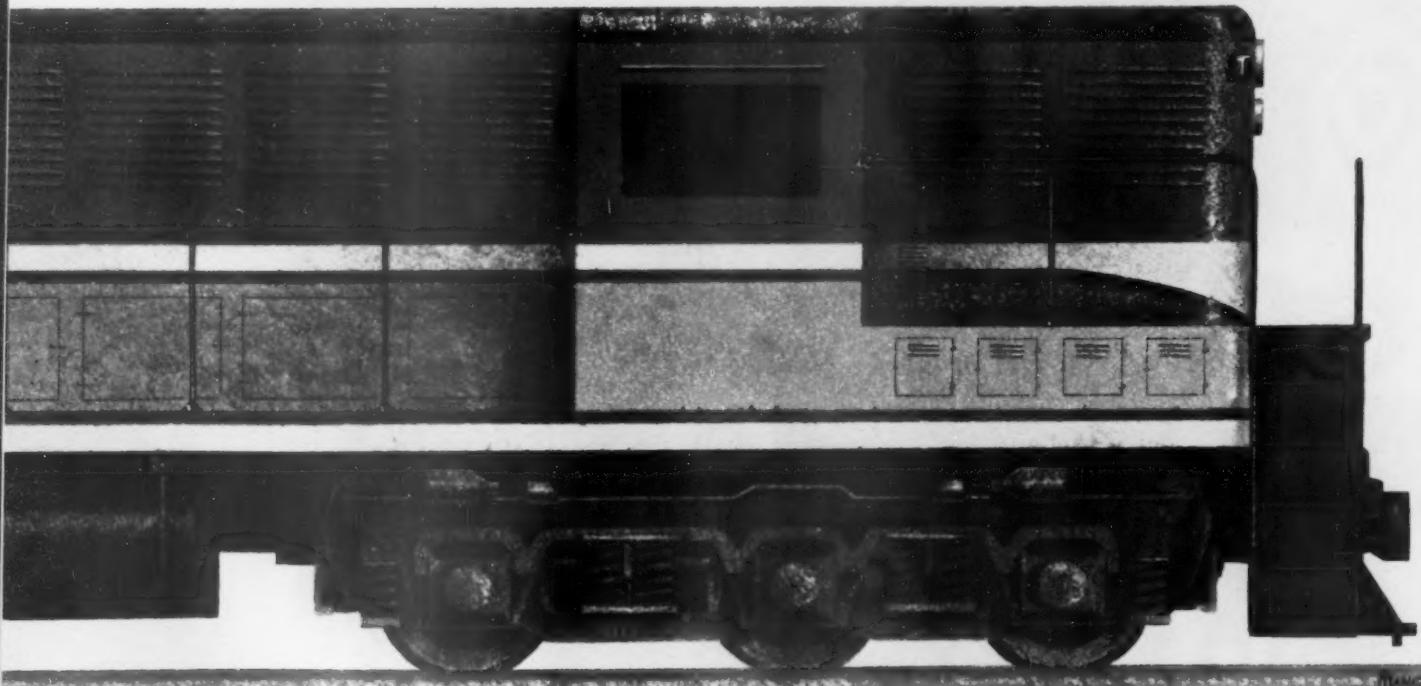


Trouble-free bearings of solid aluminum that **LAST LONGER**—Seven years ago Fairbanks-Morse switched to solid bearings of Alcoa Aluminum for main bearings, rods, thrust bearings. Their railroad customers have been benefiting ever since. The solid aluminum bearings last longer than conventional bearings and give far less trouble.

There's no worry about corrosion with aluminum bearings, regardless of the particular oil additives used. Aluminum bearings run up to 20° cooler than other bearings. The characteristic ductility of aluminum bearings results in excellent conformability to misalignment. Yet, the bearing has just the right degree of embedability to handle dirt particles—tends to roll them out into the oil filter.

Aluminum has far greater load capacity than any other solid bearing metal. In fact, aluminum bearings are the only monometallic bearings that can be used in heavy-duty service. There's no hard backing to score the shaft in event of bearing failure.

With its unmatched combination of advantages, Alcoa Aluminum is the **RIGHT** bearing metal for today's engines. Get more information. Call your Alcoa sales office or write: ALUMINUM COMPANY OF AMERICA, 1989-K Alcoa Building, Pittsburgh 19, Pa.



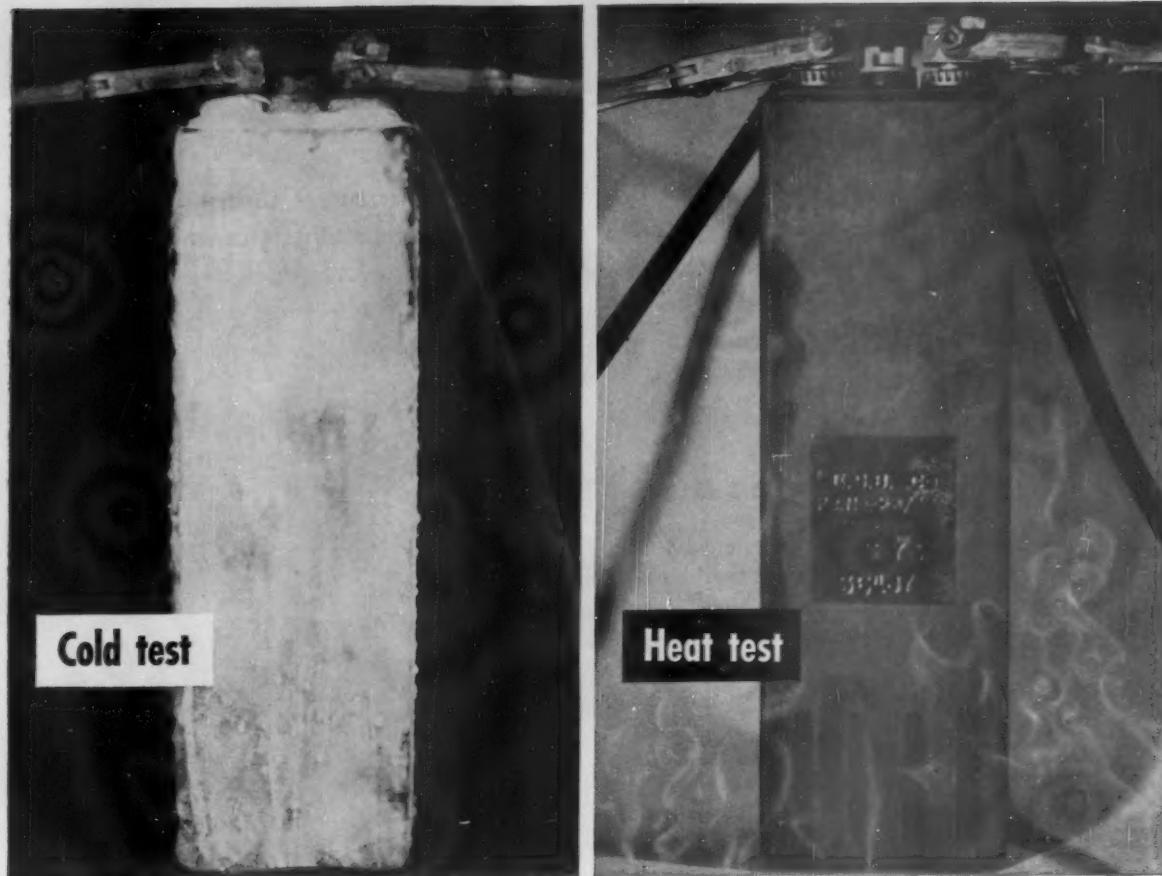
Your Guide to the Best  
in Aluminum Value



THE ALCOA HOUR—Television's Finest Live Drama  
Alternate Sunday Evenings

# EXIDE-IRONCLAD BATTERIES

For railway diesel starting



**Deliver the power over a wide range of temperatures**



BATTERY FOR RAILWAY DIESEL STARTING. Exide-Ironclad Model MVD. Write for Bulletin No. 5348.

At few places on earth do storage batteries ever encounter such extremes of cold and heat as are used to test Exide-Ironclad Batteries in the laboratory.

These tests prove that Exide-Ironclad Batteries can be depended upon over a wider range of temperatures than they are ever likely to be asked to endure. And they provide tangible extra assurance of dependability at all the more normal operating temperatures.

Extreme temperature performance is especially important when a battery must have continuous dependability. It is often at these extremes that a battery is most needed. And a battery cannot be called dependable unless it can be counted on every day—all of the time.

The high and low temperature performance of Exide-Ironclad Batteries is a direct result of their unique construction features and special engineering. In countless applications, these batteries have earned an unmatched reputation for long life and high capacity. When you need batteries for heavy duty uses, be sure to specify Exide-Ironclad. Write for detailed bulletin. Exide Industrial Division, The Electric Storage Battery Company, Philadelphia 2, Pa.

# Exide®

# NEW! PHILCO

HERE are new Microwave "Packages" by Philco, pioneer in the design and manufacture of microwave systems. Each new package incorporates advanced techniques in communications and control. All components

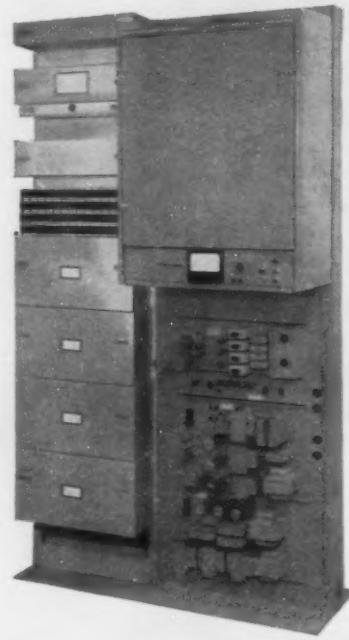
have been selected for superior performance and greatest reliability. Outstanding features of Philco Microwave Packages can lower your installation and operating costs; write Philco now for complete information.

## PHILCO Series 500 →

Philco Series 500 Package is designed primarily for pipe line and railroad companies requiring maximum dependability consistent with highest commercial performance standards along extensive right-of-way routes.

### FEATURES

- Expandable to 24 or more channels (plus service channel)
- Extendable to 40 hops (1000 miles)
- Commercial quality circuits



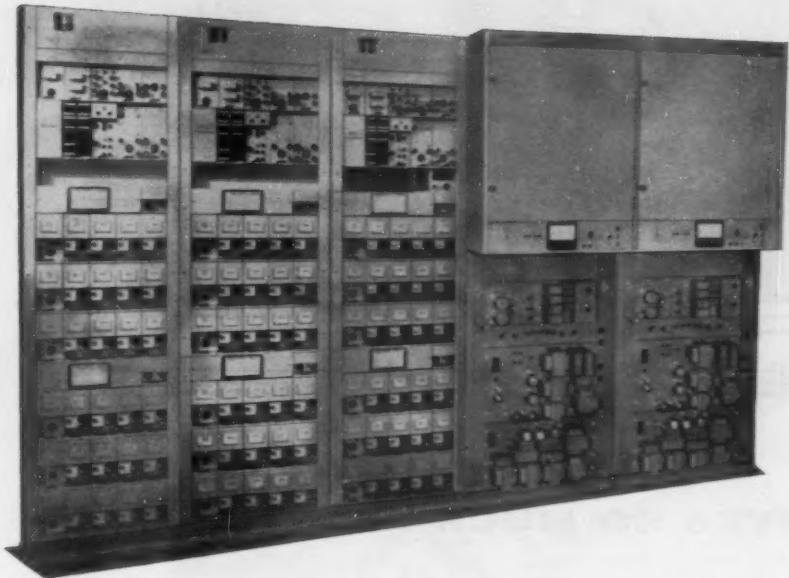
## ◀ PHILCO Series 120

Philco Series 120 Package is designed to provide low cost, reliable communications over moderate distances for turnpikes, police, and utilities.

### FEATURES

- Lowest cost per channel mile
- Expandable to 24 or more channels (plus service channel)
- Extendable to 10 hops
- Commercial quality circuits

# Microwave "Packages"



## PHILCO Series 90

Philco Series 90 Package is designed to provide the high performance and reliability required by common carriers and government agencies. Full 100% standby with completely automatic switching is included.

### FEATURES

- Utmost reliability
- Expandable to 60 channels
- Extendable to 5 or more hops

Philco maintains a staff of experienced engineers to conduct surveys, plan, and install complete systems to satisfy even the most complex communications requirements. These men have successfully completed thousands of system miles, including one of the longest microwave communications systems in the world.

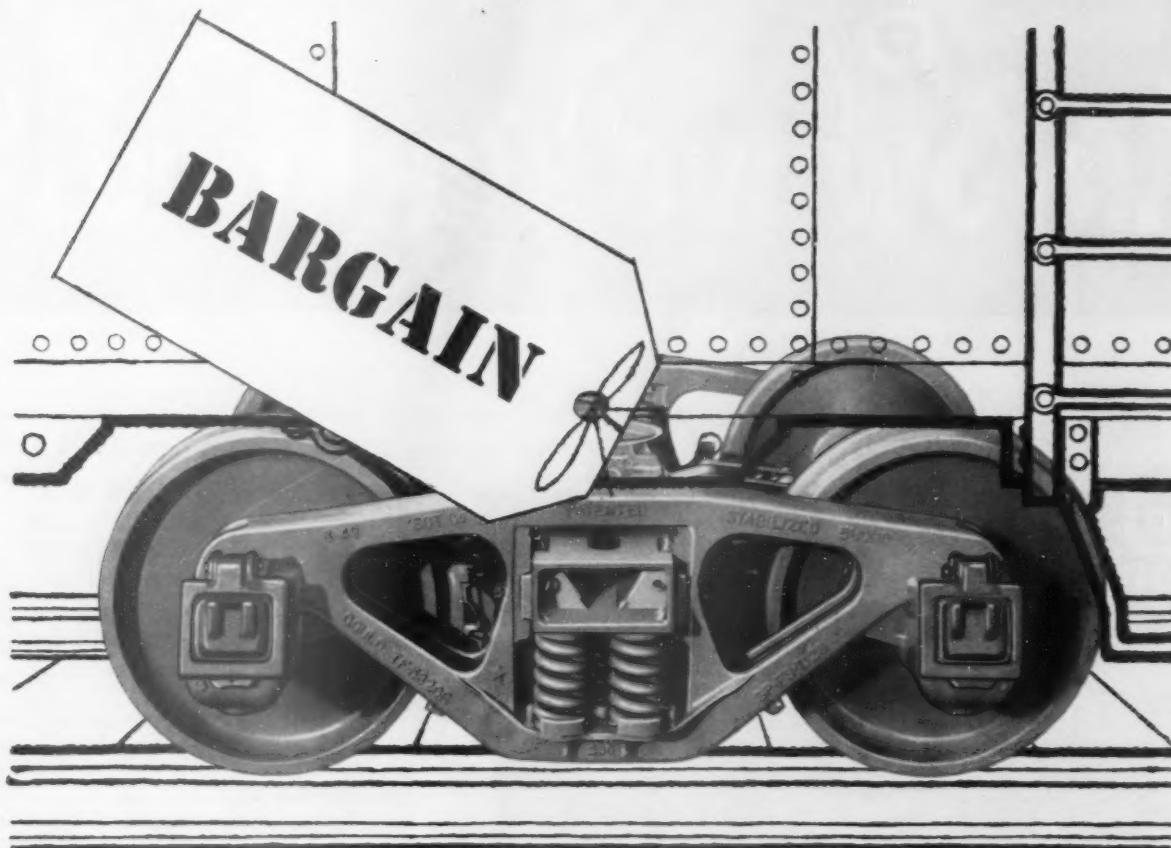
Write to Dept. RA for New Free Booklet



**PHILCO CORPORATION**  
**GOVERNMENT AND  
INDUSTRIAL DIVISION**

PHILADELPHIA 44  
PENNSYLVANIA

In Canada: Philco Corporation of Canada, Limited, Don Mills, Ontario



**COSTS SO LITTLE . . .  
GIVES SO MUCH PROTECTION**

Today Barber Stabilized Trucks are a greater bargain than ever because their savings are greater! Higher speeds mean more chances for costly damage to ladings and equipment.

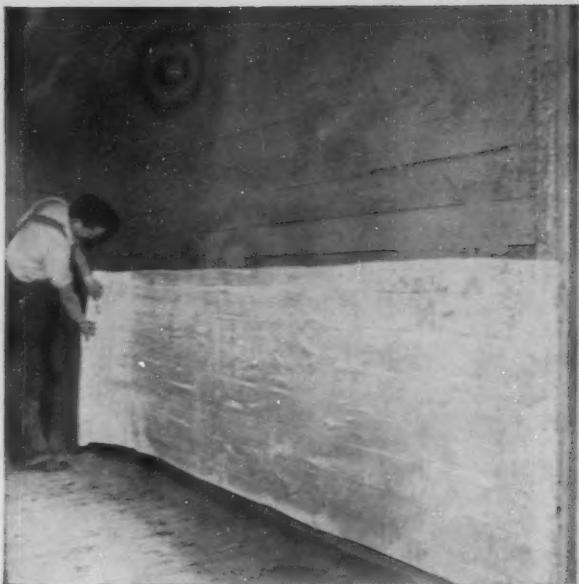
Barber Stabilized Trucks provide a safe, dependable system of suspension and protection. Actuating springs, friction shoes and wear plates work together as vertical dampers and truck resquaring devices. Bumps and bounces are cushioned and compensated, nosing and violent swivelling prevented. Thousands of damage claims are *completely eliminated*; your equipment is protected; rail pounding and track maintenance are reduced.

We firmly believe that *nothing* you specify does so much for your railroad yet costs so little as Barber Stabilized Trucks! Standard Car Truck Co., 332 S. Michigan Avenue, Chicago 4, Ill. In Canada: Consolidated Equipment Company, Ltd., Dominion Square Building, Montreal 2.

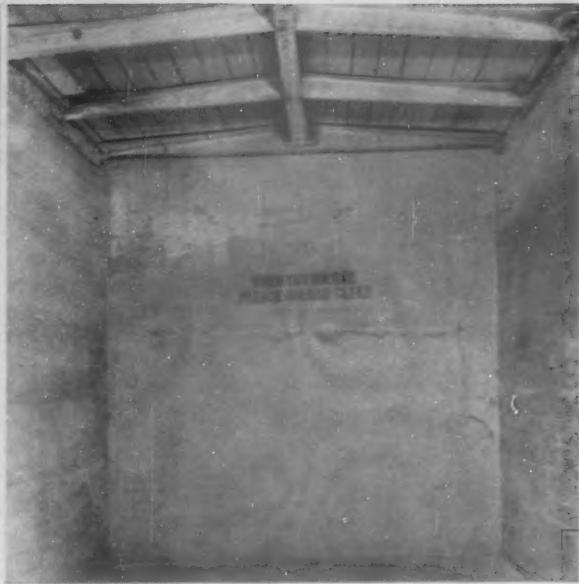


*Specify Smoother-Riding*

**BARBER**  
STABILIZED TRUCKS



Use this simple three-step method: Car No. 31480 was first sprayed with Freight-Liner plastic 7115. Glass cloth was then readily applied. Job was finished with final plastic coat.



Great Northern car No. 31294, relined January 12, 1955 at St. Cloud. General view shows excellent condition after 9 months continuous service. Railroad still rates car Class "A".

## After Nine Months of Rough Service, Box Cars Upgraded With ADM Freight-Liner 7115 Rate...

### Class "A" with



Upgraded on January 12, 1955, with ADM Freight-Liner, these two Great Northern boxcars, Nos. 31480 and 31294, have seen hard and continuous service ever since they were relined.

A service check of the cars, made September 15, 1955, when these photos were taken, showed that both cars were in outstanding Class "A" condition.

Complete relining with ADM Freight-Liner 7115 or patching with ADM Freight-Liner 810 is simple, low cost and practical. Freight-Liner can be applied in any location.

The ADM Freight-Liner System not only upgrades cars faster but reduces damage claims and per diem charges. Claims for sacks and packaged goods torn in transit are drastically reduced. Leakage of bulk shipments is controlled.

Qualified ADM service engineers provide everything needed to start your yard crew on an upgrading program. For an ADM Freight-Liner System demonstration on your own tracks, write, wire or phone (FEderal 3-2112—Minneapolis) ADM FREIGHT-LINER SYSTEM, 732 Investors Building, Minneapolis 2, Minnesota.

**ADM**

# **Freight Liner**

**SYSTEM**

**Archer.  
Daniels.  
Midland  
company**

Other ADM Products: Linseed, Soybean and Marine Oils, Paint Vehicles, Synthetic and Natural Resins, Polyesters, Fatty Acids and Alcohols, Hydrogenated Glycerides, Sperm Oil, Foundry Binders, Industrial Cereals, Vegetable Proteins, Wheat Flour, Dehydrated Alfalfa, Livestock and Poultry Feeds.

#### ARCHER-DANIELS-MIDLAND COMPANY

732 Investors Building  
Minneapolis 2, Minnesota

Yes, I would like to arrange an ADM Freight Liner demonstration.

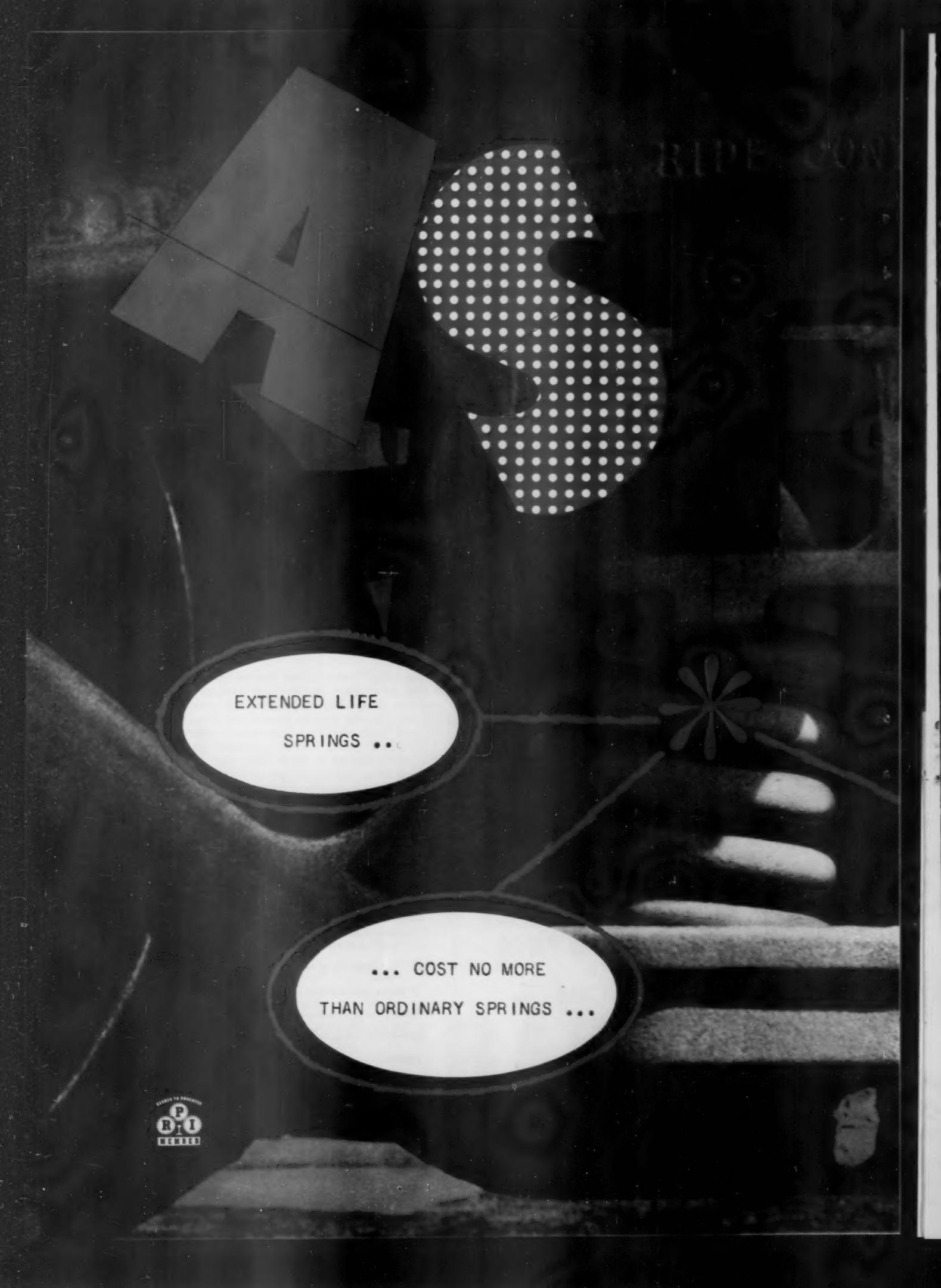
Please send literature on the ADM Freight Liner System.

Name \_\_\_\_\_

Position \_\_\_\_\_

Address \_\_\_\_\_

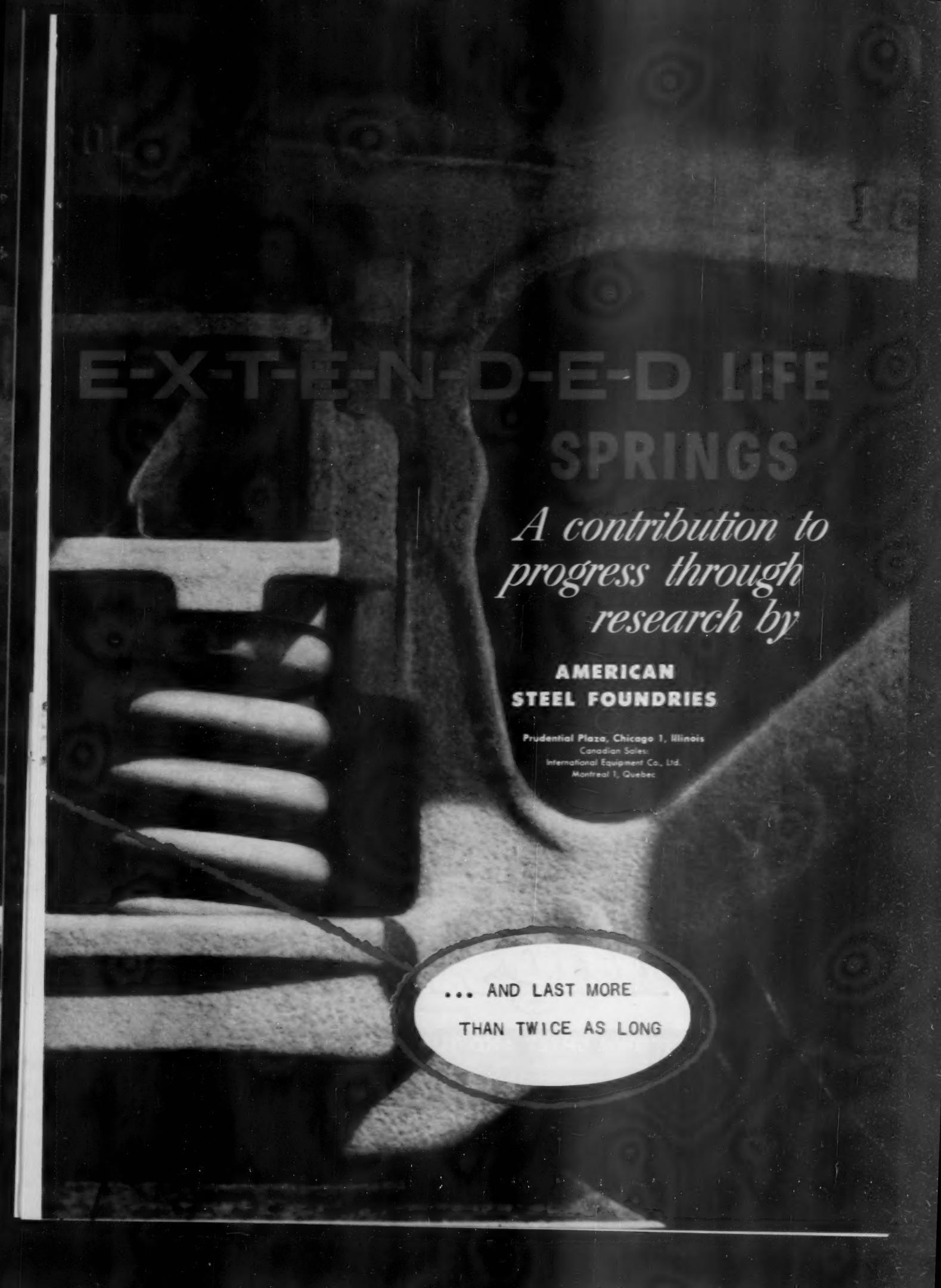
City \_\_\_\_\_ Zone \_\_\_\_\_ State \_\_\_\_\_



EXTENDED LIFE  
SPRINGS ...

... COST NO MORE  
THAN ORDINARY SPRINGS ...





# EX-T-E-N-D-E-D LIFE SPRINGS

*A contribution to  
progress through  
research by*

**AMERICAN  
STEEL FOUNDRIES**

Prudential Plaza, Chicago 1, Illinois

Canadian Sales:  
International Equipment Co., Ltd.  
Montreal 1, Quebec

... AND LAST MORE  
THAN TWICE AS LONG

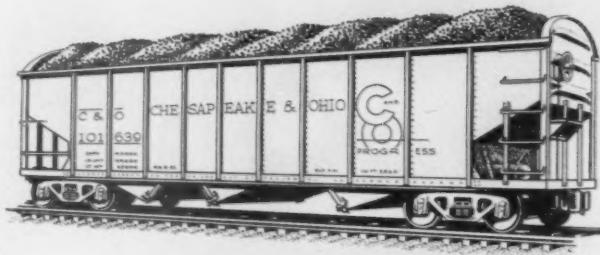


*helping build stronger, longer-lasting coal cars for the C & O*

When the Chesapeake & Ohio Railway Co. designs and builds its modern, new coal cars, it uses Yoloy "E", the high strength low-alloy, nickel-chrome-copper steel produced by Youngstown. Leading car builders across the nation who use Yoloy "E" report it:

- Increases Resistance to Corrosion
- Extends Car Life and Reduces Maintenance
- Forms and Welds Easily
- Provides High Resistance to Shock, Vibration and Abrasion

Yes, when Yoloy "E" is on the job the hopper cars are stronger and give additional years of useful life. Youngstown service engineers are ready to supply you the latest information on Yoloy "E". Why not call our nearest District Sales Office today?



# Youngstown

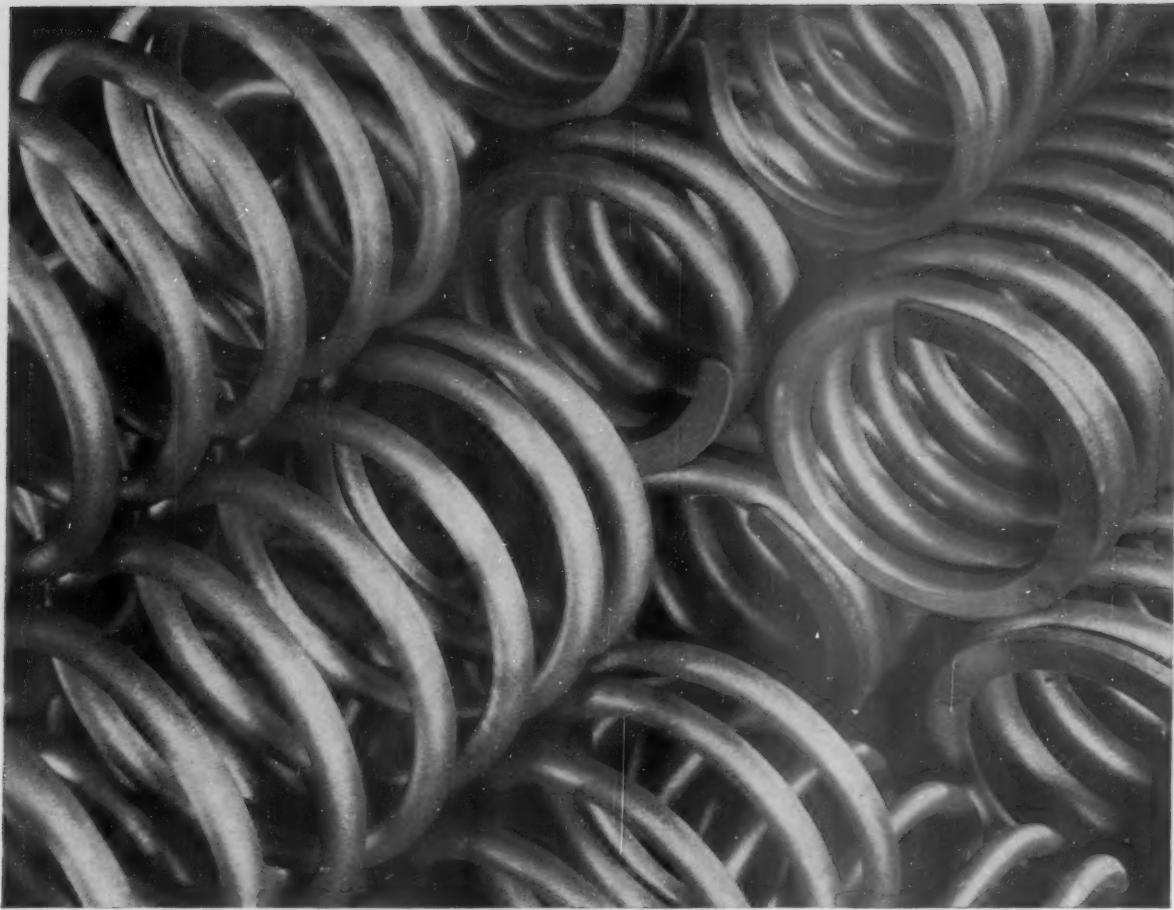
**YOLY STEEL**

**THE YOUNGSTOWN SHEET AND TUBE COMPANY**

Manufacturers of  
Carbon, Alloy and Yoloy Steel

General Offices Youngstown, Ohio      District Sales Offices in Principal Cities

SHEETS - STRIP - PLATES - STANDARD PIPE - LINE PIPE - OIL COUNTRY TUBULAR GOODS - CONDUIT AND EMT -  
MECHANICAL TUBING - COLD FINISHED BARS - HOT ROLLED BARS - WIRE - HOT ROLLED RODS - COKE  
TIN PLATE - ELECTROLYTIC TIN PLATE - BLACK PLATE - RAILROAD TRACK SPIKES - MINE ROOF BOLTS



## **Crucible fatigue-resistant springs**

*mean longer, better performance*

Crucible *fatigue resistant* springs bring you a performance-bonus. They are made to last many times longer because they're shot peened.

Whether you specify single or double heat treated Crucible *fatigue resistant* springs, shot peening provides a better surface condition...and imposes a negative stress on the surface to offset positive stresses set up in service. It adds up to optimum performance—maximum spring life.

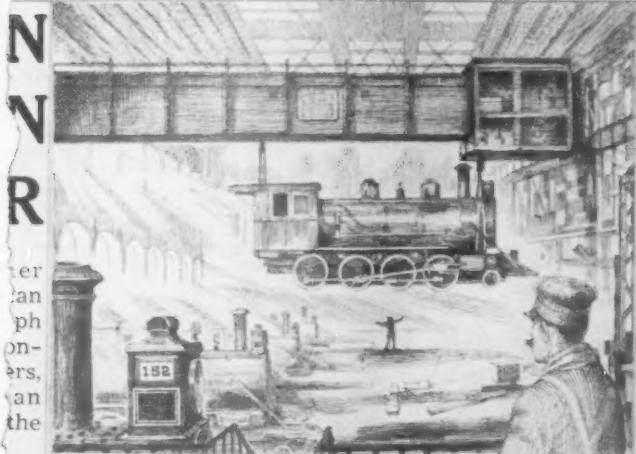
And Crucible, *the nation's leading producer of special purpose steels*, controls the manufacture of springs from ore to finished product. Inspections are continuous, and may include a final Magnaflux, if desired—all designed to bring you a better spring at low cost. For more details, write Spring Division, Crucible Steel Company of America, McCandless Avenue, Pittsburgh 1, Pa.

**CRUCIBLE** spring division

**Crucible Steel Company of America**

# RAILWAY AGE

APRIL 12, 1895



## LOCOMOTIVE WORKS FORECAST ELECTRIC MOTOR OPERATION

NEW YORK, April 12—A large number of tools, cranes, etc., in the shops of the Baldwin Locomotive Works are now operated by electric power. It is estimated that within a year all the various tools will be driven by electric motors, either direct connected, or driving lines of shafting operating a group of tools.

Through the courtesy of the Baldwin Locomotive Works we print an engraving of a 100-ton electric crane operating in the erecting shop.

The generating plant from which the motors at present used in the shop are supplied is temporary. It consists of two 100-hp. dynamos,

Dateline 1895. Then, as now, American railroads were adopting new and better electrical tools for a more efficient operation. And, even in the '90's, Graybar already had over 25 years experience in supplying "everything electrical" to America's expanding transportation industry.

Today, you'll find well over 100,000 different electrical items listed in Graybar catalogs. And your Railroad Pocket List gives the addresses of over 130 Graybar offices and warehouses in a pattern of locations that means prompt deliveries of products bearing the names of America's leading manufacturers to railroads from coast-to-coast.

For tools — hand and power operated — in fact for everything electrical for your shops, call upon your nearby Graybar Railroad representative for assistance — he'll be glad to oblige.

100,000 electrical items are distributed throughout the nation...

553-2010

GRAYBAR ELECTRIC COMPANY, 420 LEXINGTON AVENUE, NEW YORK 17, N. Y.  
OFFICES AND WAREHOUSES IN OVER 130 PRINCIPAL CITIES



## Railway Officers

(Continued from page 12)

"City of Milwaukee," appointed acting superintendent of car ferries, Milwaukee, to succeed F. W. McMullen, retired.

**GULF, COLORADO & SANTA FE.**—E. E. Baker appointed acting superintendent, Southern division, Temple, Tex., succeeding A. B. Clements, on leave of absence.

**ILLINOIS CENTRAL.**—Frank J. Duggan, trainmaster, Jackson, Miss., and James F. Reents, trainmaster, Champaign, Ill., promoted to superintendent, Memphis Terminal division, and assistant superintendent, Kentucky division, Paducah, Ky., respectively. Raymond L. Warren, assistant trainmaster, Central City, Ky., succeeds Mr. Duggan, and Loren T. Coyle transferred from Vicksburg, Miss., to replace Mr. Reents. Mr. Coyle's successor is Charles D. Majors, Jr., assistant trainmaster, Champaign. Harold G. Mullins, trainmaster, Markham, Ill., transferred to McComb, Miss., succeeding Charles S. Condon, transferred to Chicago. James W. Harrell, assistant trainmaster, Chicago & Illinois Western, becomes trainmaster, Markham, to replace Mr. Mullins.

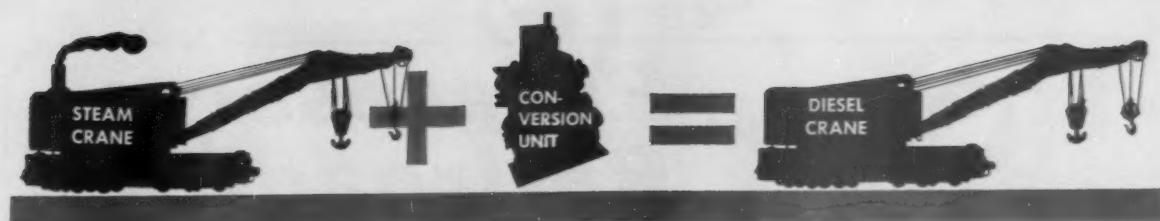
**INTERSTATE.**—Henry L. Stuart, Jr., appointed assistant to president, Andover, Va.

**KANSAS CITY SOUTHERN-LOUISIANA & ARKANSAS.**—V. N. Willard appointed car accountant of these companies, succeeding W. L. Hancock, retired.

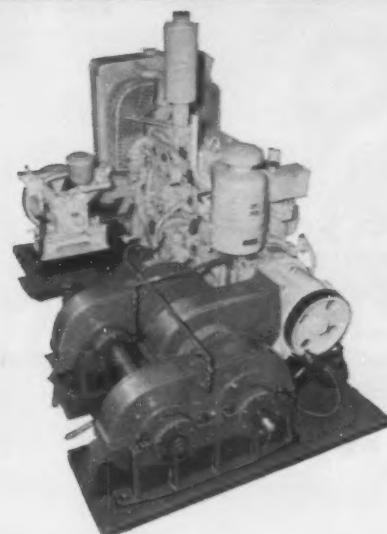
**LACKAWANNA.**—W. J. Stumpf, assistant general freight agent, New York, appointed assistant freight traffic manager. (Continued on page 46)



**LACKAWANNA.**—Harry C. Schmidt (above), assistant vice-president—traffic, elected vice-president—traffic, New York, succeeding the late Clyde F. Farmer (Railway Age, Sept. 3, p. 47).



**HOW SUBSTANTIAL SAVINGS IN LOCOMOTIVE CRANE  
FUEL COSTS ARE BEING MADE WITH THESE  
STEAM-TO-DIESEL CONVERSION UNITS**



The economy of diesel engine operation is such that, with savings on both lower fuel and lower maintenance costs, the initial expenditure on a Brownhoist Diesel Conversion Unit is soon amortized. Brownhoist Conversion Units are engineered to the individual requirements of your crane. The component parts consist of the diesel engine, the torque converter, the roller bearing mounted friction clutches, and the air compressor . . . all mounted on a heavy one-piece slab base ready for installation. These units are completely assembled and tested before shipment to you, and the conversion bill-of-material becomes a permanent part of your crane record, to expedite future service. Write today or contact your Industrial Brownhoist representative (give crane serial number).



**THIS 1925 150 TON WRECKER  
WAS STEAM, IS NOW DIESEL  
RESULT:**

**LOWER OPERATING COSTS**

This Brownhoist 150 Ton Steam Wrecking Crane, built in 1925, was recently adapted to diesel with one of our conversion units. Its operators report a substantial savings in maintenance and fuel bills, more than justifying the cost of conversion.

# BROWNHOIST

BROWNHOIST MATERIALS  
HANDLING EQUIPMENT  
GIVES A LIFT TO  
AMERICAN INDUSTRY



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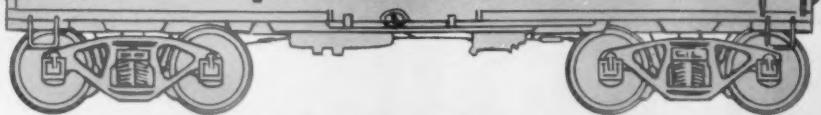


INDUSTRIAL BROWNHOIST CORPORATION  
BAY CITY, MICHIGAN • DISTRICT OFFICES: Philadelphia,  
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## For Progressive Railroading

**GREAT NORTHERN RY. CO.  
IS EQUIPPING 1,800 CARS  
with  
pad lubricators**



MILLER  
PAD LUBRICATOR

- Volume quantities—immediate delivery
- Cost—\$40 per carset (for all sizes)
- Life expectancy—6 years

**MILLER LUBRICATOR CO., WINONA, MINN.**

(Continued from page 44)

fic manager, rates and divisions, at that point, succeeding **E. M. Sellers**, who retires September 30. **M. A. Ehlers**, assistant general freight agent, New York.

**LITCHFIELD & MADISON**—**John B. Creen**, general traffic manager, St. Louis, appointed assistant vice-president—traffic there.

**LOUISVILLE & NASHVILLE**—

**Jesse C. Grissom**, superintendent of transportation, Louisville, Ky., appointed assistant general manager there. Mr. Grissom's successor is **Fred W. Kirchner**, superintendent, Birmingham division, who in turn is replaced by **R. B. Jones**, assistant superintendent, Mobile, Ala. **Carter B. Matthews**, trainmaster, Mobile, replaces Mr. Jones. **A. James, Jr.** appointed superintendent, Knoxville and Atlanta division, succeeding **George C. Wendling**, who retired October 1.

**MAINE CENTRAL**.—**Edward D. Westcott**, assistant superintendent car service, appointed superintendent car service, Portland, Me.

**MILWAUKEE**.—**R. J. Kemp**, agent, Dubuque, Iowa, appointed manager of claim prevention, refrigerator and merchandise service, Chicago, succeeding **C. R. Dougherty**, deceased (Railway Age, Sept. 10, p. 52).

**L. G. Gronin**, storekeeper, La Crosse, Wis., appointed division storekeeper, Miles City, Mont., to succeed **H. L. Stamp**, who retired September 30.

**MINNEAPOLIS & ST. LOUIS**.—**Robert I. Bowles**, senior examiner with the National Railway Adjustment Board, Chicago, named personnel officer of the M&StL, Minneapolis.

**J. B. McElwain**, assistant mechanical superintendent, Minneapolis, retired.

### OBITUARY

**Emil Von Bergen**, 74, retired assistant to the vice-president and general manager, Illinois Central, died September 24 at Memphis.

**George Munro**, 86, retired general agent of the New York Central, died September 27.



Jesse C. Grissom



Fred W. Kirchner

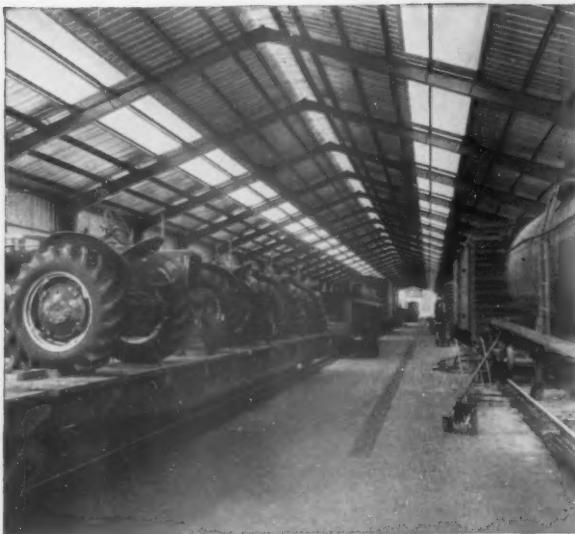


ENTERPRISE  
*Patented*  
**Unit Latch Device for  
Hopper Cars**



ENTERPRISE RAILWAY EQUIPMENT COMPANY

59 E. Van Buren Street • Chicago 5, Illinois



## Is there a metal building that's ideal for railroads?

Glance at the cars . . . then take a long look at the building. Notice how close the tracks are placed to the wall. There's still plenty of overhead clearance as those walls are twenty feet high.

There's ample room for men and equipment between the three tracks in this 70-foot wide building. No supporting columns are necessary as the rigid frame construction permits clear spans. Every square foot is usable.

If more room is needed at some future time, the ends or sidewalls can be unbolted, moved out and the necessary structural and panels added. It's fast, easy and usually costs no more than initial construction.

Naturally this is a Butler "pre-engineered" metal building that has the additional advantages of being low in cost and it can be erected weeks ahead of conventional construction.

This particular building is used for repair work and is 600 feet long. You can have one larger or smaller. Railroads are now using Butler metal buildings for warehouses, terminals, tool and parts buildings—in brief wherever they need low-cost shelter that is quality constructed.

For more information why Butler "pre-engineered" metal buildings are ideal for railroads, contact your Butler Builder listed under "Buildings" in the yellow pages of your telephone directory or write Butler.

Yours for the asking—a colorful brochure, illustrating many applications and advantages of Butler buildings for railroad use. Write direct to Butler.



**BUTLER MANUFACTURING COMPANY**

7271 East 13th Street, Kansas City 26, Missouri

Manufacturers of Steel Buildings • Oil Equipment • Farm Equipment  
Dry Cleaners Equipment • Outdoor Advertising Equipment • Special Products  
Sales offices in Los Angeles, Richmond, Calif. • Houston, Tex. • Birmingham, Ala.  
Minneapolis, Minn. • Chicago, Ill. • Detroit, Mich. • Syracuse and New York, N. Y.  
Washington, D. C. • Burlington, Ont., Can.

## Mackie Urges Spending

(Continued from page 11)

portation regulation" can produce these benefits, Mr. Mackie declared.

As to the railroads' capacity for more traffic, Mr. Mackie recalled that J. W. Barriger, president of the Pittsburgh & Lake Erie, said in his book "Super-Railroads for a Dynamic American Economy" [published by Simmons-Boardman] that "there is less than average utilization of capacity on nearly three-quarters of the miles of railroad in this country."

## NYC Would Lease Land

The New York Central, in another step aimed at getting the most use of its real estate holdings, has invited competitive bids from prospective builders of a huge office building on the Park Avenue, New York, site of a residential quadrangle now owned by the railroad.

Central President A. E. Perlman said the bidding would be for a 25-year ground leasehold on the area bounded by Park and Lexington Avenues and 47th and 48th streets. The lease would be for \$400,000 for each of the first four years and \$800,000 yearly thereafter.

Minimum construction acceptable on the site, according to the Central, would be a \$30,000,000, 30-story building, but the road has had plans drawn for a 53-story building. Net income from the property last year was \$367,000, the road announced.

## Details of B&LE Piggyback

As originally reported in Railway Age (Sept. 17, p. 12), the Bessemer & Lake Erie has inaugurated piggy-back service, its operation linking Butler, Pa., and Pittsburgh points with destinations reached through interchanges with the Monon, the Nickel Plate, the Lackawanna and the Lehigh Valley.

The Bessemer has purchased its own truck-trailer fleet to handle outbound freight at its North Bessemer yard and at Butler. Among points reached by the service are St. Louis, Louisville, Chicago and New York.

## 18-Month Journal Check

Cars equipped with journal lubricating devices must receive check-ups in the standard 18-month period required for cars with loose waste-packed boxes, according to a notice from the AAR Mechanical Division.

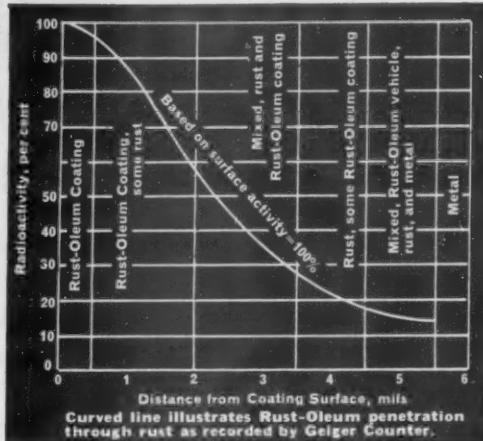
Instructions call for the lubricators to be removed, examined, "placed in as good condition as is consistent and then reapplied," the division stated, noting that some cars have been operated in violation of Interchange Rule 66 because information on periodic attention for lubricators has been lacking. Standard repacking charges are to be assessed to car owners when check-ups are given, the division said.

# RUST-OLEUM. PENETRATION

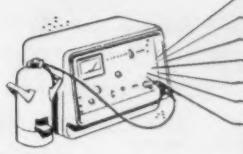
## through rust to bare metal traced by Geiger Counter.

**Counter.** To effectively stop rust—the vehicle of a protective coating, when applied over a sound, rusted surface—must penetrate through the rust down to bare metal. **Rust-Oleum does exactly that!—as proved by radioactive research!** Rust-Oleum's specially-processed fish oil vehicle was radio-activated and formulated into Rust-Oleum 769 Damp-Proof Red Primer—then applied to rusted test panels. Penetration through rust to bare metal by Rust-Oleum's specially-processed fish oil vehicle was then traced by Geiger Counter.

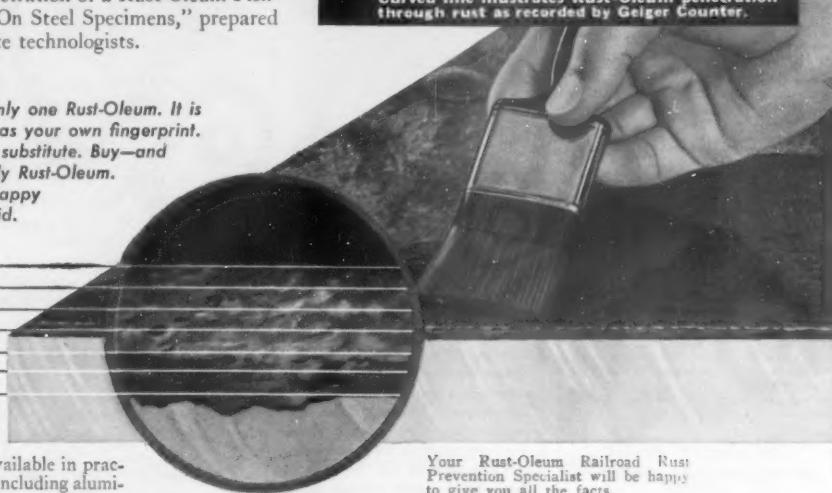
You stop rust, because Rust-Oleum's fish oil vehicle soaks deep down to bare metal and into the tiny pits where it drives out air and moisture that cause rust. You save, because this same penetration enables you to apply Rust-Oleum directly over rusted surfaces—usually eliminating costly surface preparations. Attach coupon to your letterhead for your thirty-page report entitled, "The Development of a Method To Determine The Degree of Penetration of a Rust-Oleum Fish-Oil-Based Coating Into Rust On Steel Specimens," prepared by Battelle Memorial Institute technologists.



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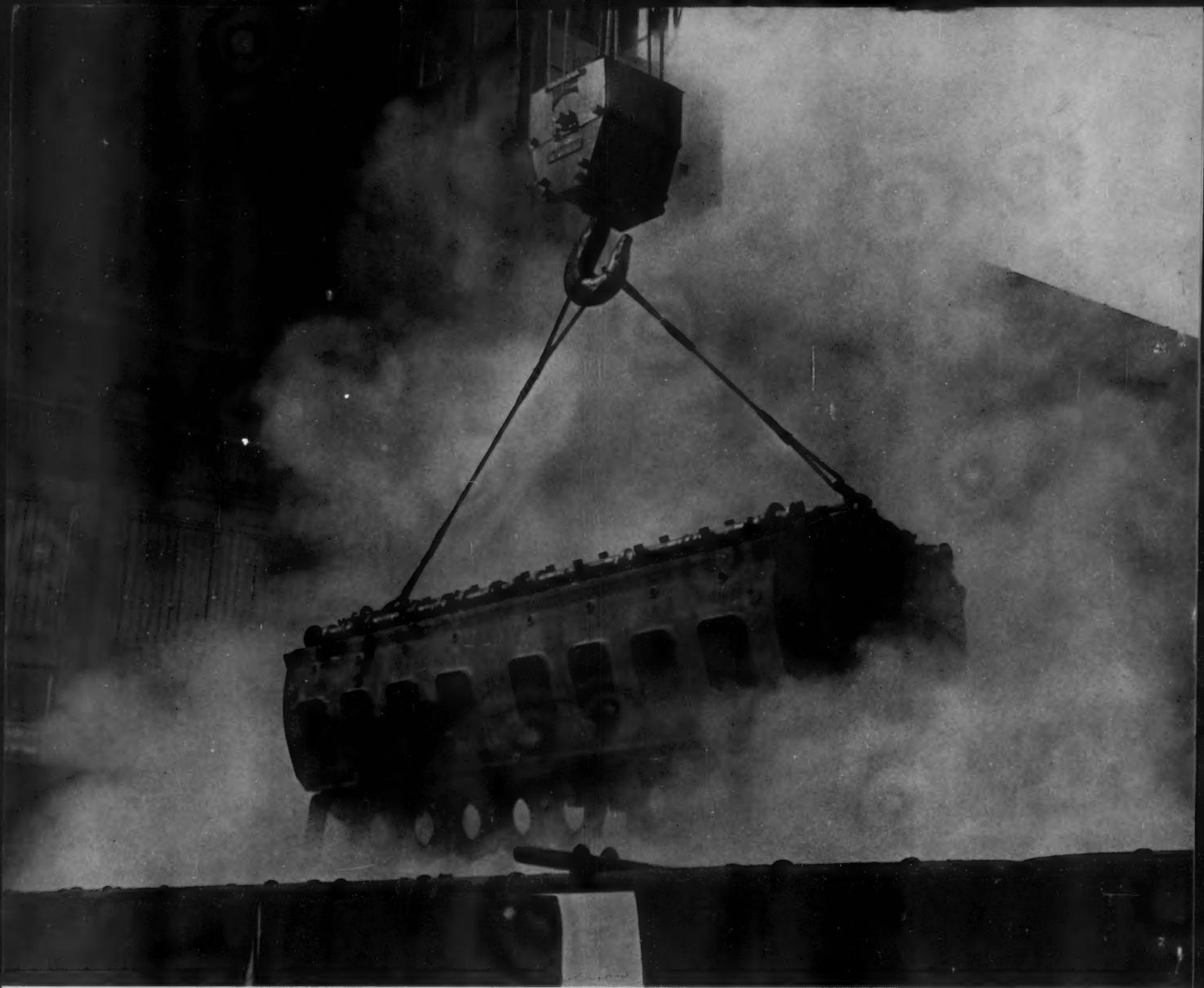
Here's an off-track unit that can be used to maintain access roads on right-of-way, clean side ditches, restore embankment, and clear snow. Your Caterpillar Dealer—who specializes in fast, efficient service and maintains a complete inventory of parts for you—is ready to demonstrate any of his versatile motor graders on *your* job. Call him today and name a date.

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